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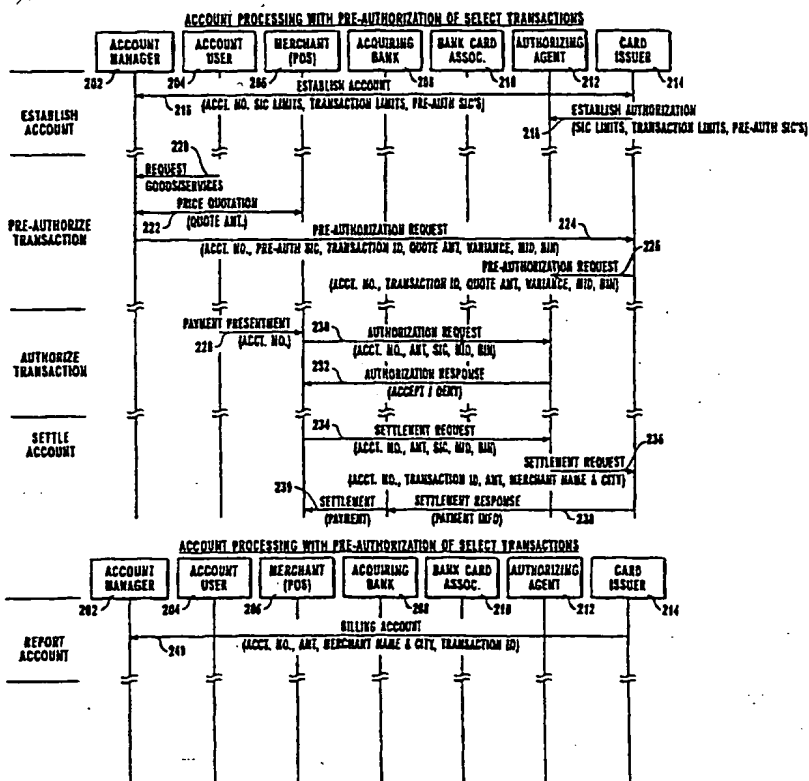
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**(57) Abstract**

An account processing method and system for providing specific pre-authorization parameters for transactions that require specific pre-authorization by a network user specifying conformity parameters within which any requested transaction parameters must comply in order to enable the requested transaction to be approved. Upon establishment of an account, transaction types by standard industrial code (SIC) are specified as needing specific authorization prior to approving the transaction as requested by a merchant. An account issuer provides a service to account members that permits network user to independently specify the parametric conditions under which to approve a transaction within such categories. Once a transaction is approved, the pre-authorization is spent and requires individual pre-authorization of each transaction, thereby minimizing misuse of an account number by merchants or others that come into possession of the network user's account number.



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**SYSTEM AND METHOD FOR PRE-AUTHORIZATION OF  
INDIVIDUAL ACCOUNT REMOTE TRANSACTIONS**

## RELATED APPLICATIONS

This application is a continuation-in-part of U.S. Patent Application Serial No. 08/957,419 filed October 24, 1997 entitled "System and Method for Pre-Authorization of Individual Account Transactions."

## BACKGROUND OF THE INVENTION

### 1. The Field of the Invention

The present invention relates to electronic authorization of financial transactions, and in particular, to electronic authorization of specific predetermined transactions. More particularly, the present invention relates to specific authorization of individual transactions otherwise inhibited or prohibited.

### 2. Present State of the Art

Modernly, more and more transactions in commerce have come to rely upon the convenience of utilizing a transaction card such as a credit card for the purchasing of goods and services. As credit cards have become more ubiquitous, so also has the infrastructure supporting the use of credit cards in commerce. At one point, what was a simple relationship between a card issuer and a cardholder has evolved to include intermediaries providing authorization services and financial distribution services. Such an expansive infrastructure has come to facilitate on-line or near real-time transaction authorization.

Furthermore, because of the extensive nature of the credit card infrastructure, additional users, not necessarily relying upon credit, also utilize the existing infrastructure in carrying out commerce. For example, businesses or corporations may establish a series of accounts with a card issuer and distribute

1 transaction cards to their members for use in executing cashless transactions. To  
2 minimize fraud and abuse in the purchasing of goods and services, authorization  
3 standards have been established. Figure 1 represents a standardized authorization  
4 process for transaction verification. An account manager, such as a fleet manager  
5 or other entity, desiring cashless transaction privileges contacts a card issuer 114  
6 to request the extension of transaction privileges through an established account  
7 request 116. Typically, when establishing a credit account, card issuer 114 places  
8 restrictions such as transaction amount limitations upon the card user. However  
9 when establishing accounts for business or other like users, account manager 102  
10 may request that card issuer 114 deny certain transactions and strictly enforce other  
11 limitations on transactions.

12 Exemplary desired account limitations include restrictions on the types of  
13 services and goods that may be procured by an account user 104 as directed by  
14 account manager 102. Industry standards have been established for the partitioning  
15 of goods and services into categories designated by a standard industrial code  
16 (SIC). A merchant 106 is assigned a specific standard industrial code  
17 corresponding to their predominate business function. For business transactions  
18 that adhere to the SIC coding, transactions originating at a point of sale terminal  
19 having a restricted SIC identifier may be unable to obtain proper authorization to  
20 complete a transaction with an account user. Other limitations frequently desired  
21 by account managers include transactional limits. Transactional limits may include  
22 single transaction limits or aggregate limitations upon successive transactions.

23 Card issuer 114 upon the establishment of an account may employ a third  
24 party authorizing agent to provide authorization services and strictly enforce  
25 transaction limitations as agreed upon between account manager 102 and card  
26 issuer 114. Card issuer 114 through an establish authorization request 118 informs

1 authorizing agent 112 of the transaction terms under which transaction  
2 authorization may be granted.

3       Once an account has been established account manager 102 provides the  
4 account information necessary to enable account user 104 to engage in commerce  
5 transactions. Such account information generally includes an account number as  
6 assigned by card issuer 114. The predominate form of providing account  
7 information to account user 104 is to provide account user 104 with a transaction  
8 card generally taking the form of a credit card-like card bearing the account number  
9 thereon. Account user 104 upon initiating a transaction with a merchant 106  
10 engages in a payment presentment step 120 by providing the requisite account  
11 information to merchant 106. Merchant 106 engages in an authorization process  
12 to verify that the transaction parameters of the present transaction are within the  
13 boundaries or limitations placed upon the account as requested by account  
14 manager 102 or imposed by card issuer 114. An authorization request 122 issued  
15 by merchant 106 is comprised of an account number, a transaction amount and  
16 other parameters such as a standard industrial code (SIC), a merchant identifier  
17 (MID) and an acquiring bank identification number (BIN).

18       A merchant 106 typically associates with an acquiring bank 108 which  
19 provides funding services of merchant transactions. Authorization requests may  
20 electronically pass through acquiring bank 108 as designated by the BIN of the  
21 authorization request and additionally may route through a card company 110 (e.g.,  
22 MasterCard®, VISA®, Discover Card® or American Express®) prior to reaching  
23 authorizing agent 112 for comparison of account parameters. Authorizing  
24 agent 112 compares the transaction parameters for conformance with account  
25 limitations. Authorizing agent 112 issues an authorization response 124  
26 comprising an acceptance or denial indicator.



1           During general authorization processing, funds generally do not transfer at  
2           that time. A settlement generally occurs at a periodic time such as evenings or  
3           nights when a merchant re-initiates communication with an authorizing agent and  
4           presents a series of accepted and authorized transactions occurring throughout the  
5           previous period and requests financial settlement of such transactions.  
6           Merchant 106 initiates a settlement request 126 with authorizing agent 112 which  
7           generally comprises the account number to be debited, the amount of the debit and  
8           other information such as SIC, MID and BIN designators. As part of the settlement  
9           process, authorizing agent 112 issues a settlement request 128 to card issuer 114.  
10          Frequently a settlement request 128 includes less cryptic merchant information  
11          (*i.e.*, merchant name and city/state address instead of MID) for later presentment  
12          to an account manager. Card issuer 114 in a payment settlement response step 130  
13          passes payment information on to merchant's acquiring bank 108 with the  
14          appropriate funds transferring in a step 131.

15          At yet another periodic point in time, card issuer 114 provides a billing  
16          account 132 to account manager 102 for notification of payment due or for other  
17          record keeping purposes. Such billing account information may be presented in  
18          various forms including printed statements as well as electronic reporting. In such  
19          generic authorization processing as described above, billing account information  
20          contains relatively little and non-descriptive information such as an account  
21          number, a transaction amount and merchant information.

22          At least three particular shortcomings of the authorization process as  
23          described in Figure 1 should be pointed out. First, authorization performed by  
24          authorizing agent 112 provides a regulation of transactions by either proscribing  
25          transactions originating at a merchant having a proscribed SIC goods/services  
26          designator, or withholding authorization from transactions that exceed

1 transactional limits. Such an authorization process approves transactions of values  
2 less than the transactional limits transpiring at non-proscribed merchant point of  
3 sale terminals having a non-barred SIC goods/services designator. Prior art  
4 authorization techniques do not provide a method or system for enforcing strict  
5 transaction parameters prior to authorization of restricted transaction types on a  
6 transaction by transaction basis. Additionally, prior art techniques do not permit  
7 an account manager to create transaction authorization parameters without re-  
8 initiating account establishment procedures.

9 A second shortcoming of the authorization processing in the prior art  
10 relates to billing account information sent from card issuer 114 for evaluation by  
11 account manger 102. As shown in Figure 1, the billing account information is  
12 comprised of an account number and an amount coupled to merchant information  
13 such as the name and city of the merchant. An account manager does not have a  
14 tracking mechanism to track the execution of a specific transaction and the billing  
15 of such a transaction on a billing statement if the vendor and acquiring bank cannot  
16 provide this functionality. In prior art configurations, the account manager only  
17 discerns that a certain amount of money, a transaction amount, was exchanged with  
18 a specific merchant.

19 Other transaction systems have incorporated item descriptions generally  
20 ascertainable from SKU numbers listing goods or services obtained from the listed  
21 merchant into their billing statements. It should be noted that such techniques still  
22 do not provide a tracking mechanism for linking a specific authorization procedure  
23 to a billing account printout.

24 A third short coming of the authorization processing in the prior art relates  
25 to the inability to prevent fraudulent successive transactions using the account  
26 number of an account user once it has been divulged to a merchant. In many

1 instances and applications, transactions are performed remotely from the physical  
2 presence of the account user thereby foreclosing the account user from  
3 discretionary evaluation of the credibility of the merchant with which an account  
4 user's account number would be divulged. In such an application, the rogue  
5 merchant would be free to utilize the account number in successive authorization  
6 requests and alternatively could resell or post an account user's account number for  
7 indiscriminate use by other devious entities. Because such an opportunity exists  
8 such as in the case of remote network and chiefly Internet purchasing  
9 environments, account users have theretofore been hesitant to engage in electronic  
10 commerce using a credit or other form of transaction card or vehicle that exposes  
11 an account user's account number into an environment whose security is at best  
12 suspect.

13 Accordingly, what is needed is a method and system for authorizing in  
14 advance or pre-authorizing transactions that but for specific authorization, are  
15 otherwise proscribed.

16 What is also needed is a method and system for enforcing parameters upon  
17 such pre-authorized transactions such as transaction amounts, specific merchants  
18 and other transaction related parameters.

19 Also, what is yet needed, is a method and system for facilitating an audit  
20 or record reconciliation from a pre-authorized transaction through the billing of the  
21 account thus informing an account manager of the completion of a pre-authorized  
22 transaction.

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## SUMMARY AND OBJECTS OF THE INVENTION

It is an object of the present invention to provide a method for authorizing an account when a portion of the account transactions require individual pre-authorization according to specified pre-authorization parameters.

It is another object of the present invention to provide a system for authorizing an account when a portion of the account transactions require individual pre-authorization according to specified pre-authorization parameters.

It is a further object of the present invention to provide a method for authorizing a portion of account transactions otherwise denied by requiring individual pre-authorization according to parameters pre-authorized in a pre-authorization process.

It is yet another object of the present invention to provide a method and system for associating a transaction identifier within a pre-authorization process such that upon the completion of the transaction, the associated transaction identifier follows the transaction information through the billing account phase, thus allowing reconciliation of a specific transaction from a previously assigned transaction identifier.

It is still yet another object of the present invention to provide a method and system for authorizing all account transactions which without such pre-authorization would otherwise be denied in wholesale. Such a method and system enforces a collateral pre-authorization of each and every transaction in order to approve or accept an authorization transaction initiated by a merchant entity.

Additional objects and advantages of the invention will be set forth in the description which follows, and in part will be obvious from the description, or may be learned by the practice of the invention. The objects and advantages of the

1 invention may be realized and obtained by means of the instruments and  
2 combinations particularly pointed out in the appended claims.

3 To achieve the foregoing objects, and in accordance with the invention as  
4 embodied and broadly described herein, an account processing method and system  
5 for facilitating the general denial of all or specific categories of transactions unless  
6 they are specifically pre-authorized with specified parameters and the parameters  
7 of the requested transaction conform to those pre-authorized parameters is  
8 provided. Additionally, the present invention provides a system and method for the  
9 pre-authorization of specific transactions to be performed by an account manager  
10 via a service provided by an account issuer to their customers such as account  
11 managers and users.

12 A further advancement of the present invention provides a method and  
13 system for allowing an account manager to define a transaction identifier (e.g.,  
14 insurance claim number, purchase order number, work order number, etc.) and  
15 attach the transaction identifier through a pre-authorization of a transaction. Upon  
16 the initiation and authorization of a requested transaction conforming to the  
17 specified pre-authorization parameters, the transaction identifier is included with  
18 the generic billing information (e.g., transaction amount, merchant information,  
19 etc.) thus allowing an account manager to reconcile their accounting from a billing  
20 account information containing the transaction having the transaction identifier  
21 associated thereto with a pre-transaction assignment of a traditional identifier such  
22 as purchase order number, work order number, or insurance claim number.

23 The above described system and method includes an account establishment  
24 phase of an account process wherein an account manager approaches a card  
25 issuer to establish an account in an establish account step. During the  
26 establishment of an account, limitations on transactions relating to that account are

1 negotiated between the account manager and card issuer. Transaction limitations  
2 generally include items such as transaction limits, account balance limit,  
3 limitations on categories of goods or services as denoted by standard industrial  
4 codes (SIC) and other parameters that may be incorporated into a specific  
5 accounting scheme. In an alternate embodiment, a system and method is described  
6 wherein a consumer-to-business transaction environment, the account user  
7 personally initiates the account establishment phase with the card issuer.

8 In the present invention, upon the establishment of an account or during the  
9 amending or changing of an account, transactions involving certain categories of  
10 goods or services as denoted by pre-authorization SICs that denote categories of  
11 goods or services, have individual parametric constraints placed upon them. A card  
12 issuer employs the services of an authorizing agent for performing account  
13 authorization upon the initiation of a transaction request from a merchant. The  
14 card issuer, in an establish authorization step, forwards various parameters such as  
15 SIC limits that wholly bar categories of transactions, transaction limits relating to  
16 non-pre-authorization transactions and pre-authorization SICs designating  
17 categories of goods or services requiring specific authorization in conformance  
18 with pre-authorization parameters subsequently dispatched to the designated  
19 authorizing agent in a pre-authorization process.

20 In the present invention, once an account is established with a card issuer,  
21 an account manager may perform pre-authorization of transactions with the card  
22 issuer directly. In the preferred embodiment, an account manager using a  
23 communication device such as a personal computer may routinely generate pre-  
24 authorization requests by transferring pre-authorization parameters to the card  
25 issuer via communication channel such as the INTERNET. In an alternate  
26 embodiment such as a consumer-to-business environment, the account user may

1 personally perform the transaction pre-authorization directly with the card issuer.  
2 In a remote or networking-type environment, the account user may pre-authorize  
3 the transaction by employing a network such as the INTERNET which enables the  
4 account user to interface with the card issuer through a card issuer's interactive  
5 interface such a web page.

6 A typical scenario wherein the present invention is practiced provides for  
7 a pre-authorization transaction phase that commences with a request by an account  
8 user for a specified good or service that requires pre-authorization prior to  
9 initiating the transaction. The account user consults with the account manager for  
10 requesting restricted goods or services. The account manager in turn contacts the  
11 merchant for negotiating or obtaining a price quotation for the requested goods or  
12 services, or optionally, the account manager arrives at a quotation amount by  
13 consulting other traditional pricing sources such as directories or catalogs.

14 The account manager issues a pre-authorization request to the card issuer  
15 via a personal computer. The account manager in the pre-authorization  
16 request specifies an account number for which pre-authorization transaction  
17 parameters apply. In the preferred embodiment, one or more transaction  
18 parameters including a quote amount resulting from the quotation process, an  
19 acceptable variance or deviation range from the quotation amount, a merchant  
20 identifier (MID) or an acquiring bank identification number (BIN) are dispatched  
21 to the card issuer. It should be pointed out that in the present invention, one or  
22 more of the pre-authorization parameters may be specified while others may not be  
23 specified thus permitting the spectrum of possible options for such criteria. The  
24 card issuer relays the pre-authorization parameters to the authorizing agent for  
25 storage and usage during authorization processing. In an alternate consumer-to-  
26 merchant environment, the account user assumes the role of the account manager

1 by both seeking out the goods or services to be procured and additionally by pre-  
2 authorizing or approving a future transaction that undergoes a merchant  
3 authorization request.

4 Another aspect of the present invention includes the ability to input or  
5 provide a transaction identifier for association with an authorized completed  
6 transaction. The transaction identifier, in the preferred embodiment, provides an  
7 alpha-numeric field wherein an identifier may be specified and associated with a  
8 pre-authorized transaction and upon the initiation and authorization of the  
9 requested transaction, the transaction identifier is reported in the billing account  
10 information. Such a transaction identifier enables an account manager to associate  
11 a pre-authorization of a transaction with a transaction reported in a billing account  
12 thereby allowing reconciliation of accounting entries.

13 The pre-authorization parameter record remains within the authorizing  
14 agent until a matching transaction is initiated by an account user. When an account  
15 user initiates a transaction for goods or services, a merchant initiates an  
16 authorization request for approval. In the present invention, the authorization  
17 request takes the form of presentment of a transaction card or other credit card-like  
18 credentials bearing an account number as previously assigned for use by the  
19 account user. An account user or account manager may present the account number  
20 to the merchant using means other than a transaction card such as the presentment,  
21 verbal disclosure, electronic disclosure or written disclosure of an account number  
22 to the merchant.

23 During the authorization, the merchant forwards the account number, the  
24 transaction amount, and alternatively other information such as the merchant's SIC  
25 denoting its category of goods or services, the merchant's MID and the acquiring  
26 BIN associated with the merchant. The authorizing agent performs the



1 authorization process which includes consulting the pre-authorization table when  
2 the merchant SIC presented in the authorization request corresponds to a pre-  
3 authorization SIC presented during the establishment of the account. The  
4 authorizing agent issues an authorization response listing the acceptance or denial  
5 status resulting from the authorization process.

6 During the settlement of the account, generally at the end of the business  
7 day, the merchant forwards the account numbers, the transaction amounts and other  
8 pertinent and related information such as the merchant's SIC and city location  
9 relating to each of the authorized transactions for the day. In one embodiment of  
10 the present invention, the authorizing agent additionally forwards the transaction  
11 identifier as received in the pre-authorization request. In the billing account issued  
12 by the account issuer to the account manager, the billing account includes details  
13 of the account number, the transaction amount, merchant information and when  
14 present the transaction identifier. By presenting the transaction identifier to the  
15 account manager, transactions authorized in the pre-authorize transaction phase  
16 may be traced through the authorization, settlement and reporting phases of account  
17 processing. By tracing or having a designator assigned to a specific transaction,  
18 the accounting resources of the account manager may close out such transactions  
19 upon reporting the completion of the transaction.

20 In a networked consumer user-to-merchant environment, such as in an  
21 electronic commerce environment, the individual pre-authorization of each  
22 transaction by a user prior to the actual payment presentment activity, minimizes  
23 the fraudulent use of an account user's account number when divulged during a  
24 payment presentment step. Such misuse is curbed due to the fact that any  
25 subsequent authorization requests by a merchant or unauthorized user would be  
26 denied since the account user would not have individually pre-authorized each and

1 every transaction attempted by the user rogue merchant thereby denying subsequent  
2 debits against the account user's account.

3       These and other objects and features of the present invention will become  
4 more fully apparent from the following description and appended claims, or may  
5 be learned by the practice of the invention as set forth hereinafter.

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### BRIEF DESCRIPTION OF THE DRAWINGS

In order that the manner in which the above-recited and other advantages and objects of the invention are obtained, a more particular description of the invention briefly described above will be rendered by reference to specific embodiments thereof which are illustrated in the appended drawings. Understanding that these drawings depict only typical embodiments of the invention and are not therefore to be considered limiting of its scope, the invention will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

Figure 1 is a flow diagram of an authorization process, in accordance with the prior art;

Figure 2 is a flow diagram of a pre-authorization process, in accordance with a preferred embodiment of the present invention;

Figure 3 is a block diagram of an authorization table including both standard and pre-authorization tables as stored within an authorizing agent, in accordance with a preferred embodiment of the present invention;

Figure 4 is a flow chart of a transaction authorization procedure in a pre-authorization-capable authorizing agent, in accordance with an embodiment of the present invention;

Figure 5 is a representative billing statement containing a transaction identifier as associated with a pre-authorized transaction and subsequently forwarded to an account manager upon completion of a pre-authorized transaction, in accordance with an embodiment of the present invention;

Figure 6 is a flow diagram illustrating account processing which employs pre-authorization of select transactions without requiring an account user to

1 perform a payment presentation step, in accordance with an embodiment of the  
2 present invention;

3 Figure 7 is a simplified transaction diagram for use in a wide-area  
4 networking environment, in accordance with a preferred network embodiment of  
5 the present invention;

6 Figure 8 is a flow diagram of a pre-authorization process for use in a wide-  
7 area networking environment, in accordance with a preferred network embodiment  
8 of the present invention; and

9 Figure 9 is a block diagram of an authorization table including both  
10 standard and pre-authorization tables as stored within an authorizing agent, in  
11 accordance with a preferred network embodiment of the present invention.

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## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

As used herein, the term "account manager" refers to an individual or organization charged with establishing and monitoring an account. An account manager may be in charge of many accounts and take the form of fleet managers, accounting managers, claims adjusters and also prudent account users.

As used herein, the term "account user" refers to an individual, consumer or organization seeking goods or services and may also take the form of fleet users, business personnel and insured parties. It should be noted that an account manager and an account user may be the same party.

As used herein, the term "merchant" refers to an individual or organization providing goods or services in exchange for a fee. Merchants generally facilitate the reimbursement transaction by providing a point-of-sale terminal or other device through which a transaction is initiated including a computer network interface for interacting over a network such as a LAN or WAN including the Internet.

As used herein, the term "acquiring bank" refers to a financial institution providing financial services for an associated merchant. An acquiring bank is generally a bank or like organization at which a merchant maintains an account for reconciliation of funds.

As used herein, the term "bank card association" refers to a sponsoring organization that provides financial services and brings organization and infrastructure into the account processing.

As used herein, the term "authorizing agent" refers to an organization which may be part of a card company and provides assurances to a merchant of the good standing of the account in question and conformity of the requested transaction to limitations and parameters placed upon a transaction.

1           As used herein, the term "account or card issuer" refers to an organization  
2 providing administrative services to an account user or account manager. Account  
3 issuer may also provide augmented services to an account user or manager such as  
4 access to an authorizing agent for account establishment and other functions such  
5 as pre-authorization.

6           As used herein, the term "authorization web page" refers to a computer  
7 network-accessible intermediary interface into which a web account user  
8 (consumer) may place parametric transaction authorization information that is  
9 forwarded to an authorizing agent for use in evaluating the legitimacy of a specific  
10 transaction.

11           It should also be appreciated that the functions of the "bank card  
12 association," "authorizing agent," "card issuer," and the sponsor of an  
13 "authorization web page" may be one or several entities providing a combination  
14 of these functions.

15           As described in the Background of the Invention, Figure 1 is a flow diagram  
16 of an authorization process in accordance with the prior art.

17           Figure 2 is a flow diagram of account processing incorporating pre-  
18 authorization of individual transactions or transaction types, in accordance with a  
19 preferred embodiment of the present invention. As account processing has become  
20 increasingly prevalent and sophisticated, the complexities of account processing  
21 have also increased. For example, in the establishment and processing of an  
22 account, additional specified participants are incorporated into the processing flow.  
23 In one preferred embodiment, during an account establishment phase of an account  
24 process, an account manager 202 approaches a card issuer 214 to establish an  
25 account as represented in Figure 2 by establish account step 216. During the  
26 establishment of an account, limitations on transactions relating to that account are

1 negotiated between account manager 202 and card issuer 214. Transaction  
2 limitations generally include items such as transaction limits, account balance  
3 limit, limitations on categories of goods or services as denoted by standard  
4 industrial codes (SIC) and other parameters that may be incorporated into a specific  
5 account scheme.

6 In the present embodiment of the invention, upon the establishment of an  
7 account or during the amending or changing of an account, transactions involving  
8 certain categories of goods or services as denoted by pre-authorization SICs denote  
9 goods or services that require individual parametric constraints upon such  
10 transactions. For example, account manager 202 may establish an account for use  
11 by an account user 204 for performing maintenance upon a fleet vehicle. In order  
12 to police the use of the account for limited maintenance purposes, account  
13 manager 202 designates the SIC associated with maintenance as a pre-authorization  
14 SIC requiring conformity to transaction parameters subsequently defined by  
15 account manager 202.

16 Card issuer 214 employs the services of an authorizing agent 212 for  
17 performing account authorization upon the initiation of a transaction request from  
18 a merchant. Card issuer 214 in establish authorization step 218 forwards SIC limits  
19 controlling categories of transactions, transaction limits relating to non-pre-  
20 authorization transactions and pre-authorization SICs designating categories of  
21 goods or services requiring specific authorization according to pre-authorization  
22 parameters subsequently dispatched to authorizing agent 212.

23 In the present invention, once an account is established with a card issuer,  
24 account manager 202 may perform pre-authorization of transactions with card  
25 issuer 214 directly. In the preferred embodiment, account manager 202 using a  
26 personal computer may routinely generate pre-authorization requests by

1 transferring pre-authorization parameters to card issuer 214 via the INTERNET.

2 A pre-authorization transaction phase commences with a request 220 by an  
3 account user 204 for a specified good or service that requires pre-authorization  
4 prior to initiating the transaction. Account user 204 consults with account  
5 manager 202 to obtain restricted goods or services. Account manager 202 in turn  
6 contacts a merchant 206 for negotiating or obtaining a price quotation 222,  
7 including a quote amount for the requested goods or services. Optionally, account  
8 manager 202 may consult a price quotation directory or catalog containing price  
9 quotations for goods or services as requested by account user 204. In yet another  
10 option, account manager 202 may independently generate or approximate a quote  
11 amount for a requested goods or service for use in the pre-authorization process.

12 Account manager 202 issues a pre-authorization request 224 to card  
13 issuer 214, in the preferred embodiment, using a personal computer that is  
14 electronically coupled to card issuer 214. Account manager 202 in pre-  
15 authorization request 224 specifies an account number for which pre-authorization  
16 transaction parameters apply. In the preferred embodiment, one or more  
17 transaction parameters including a quote amount resulting from the quotation  
18 process, an acceptable variance, or deviation range from the quotation amount, a  
19 merchant identifier (MID) and an acquiring bank identification number (BIN) are  
20 dispatched to card issuer 214. It should be pointed out that in the present  
21 invention, one or more of the pre-authorization parameters may be specified while  
22 others may not be specified, thus permitting the spectrum of possible options for  
23 such criteria. For example, account manager 202 may specify a quote amount and  
24 a variance or deviation from the quote amount, such as in the case permitting the  
25 inclusion of sales tax with the quoted transaction amount, while leaving the  
26 merchant identifier and acquiring bank identification number unspecified, thereby



1 permitting an account user to seek out the goods or services of any merchant for  
2 processing the requested transaction.

3 Another field that may be input or provided by account manager 202 is a  
4 transaction identifier field. The transaction identifier, in the preferred  
5 embodiment, provides an alpha-numeric field wherein an identifier may be  
6 associated with a pre-authorized transaction and upon the initiation and  
7 authorization of the requested transaction, the transaction identifier is reported in  
8 the billing account information. Such a transaction identifier enables an account  
9 manager to associate a pre-authorization of a transaction with a transaction  
10 reported in a billing account thereby allowing reconciliation of accounting entries.

11 Referring to Figure 2, card issuer 214 employs its established relationship  
12 with authorizing agent 212 to forward a pre-authorization request 226 comprised  
13 of the account number and other transaction parameters which may optionally  
14 include a transaction identifier. Authorizing agent 212 retains and stores the pre-  
15 authorization transaction parameters in a pre-authorization table 318 (Figure 3) for  
16 subsequent authorization when a transaction presents an SIC corresponding to one  
17 designated as a pre-authorization SIC.

18 The pre-authorization parameter records remain within authorizing  
19 agent 212 until a matching transaction is initiated by an account user. Optionally,  
20 pre-authorization parameters may become stale and expire if not timely used.  
21 Account user 204 requests goods or services from merchant 206 and thereafter  
22 initiates a payment presentment 228 for reimbursement to merchant 206. In the  
23 preferred embodiment, payment presentment 228 takes the form of presentment of  
24 a transaction card or other credit card-like credentials bearing an account number  
25 as previously assigned for use by account user 204. It should be noted that the  
26 present invention does not require account user 204 to present tangible credentials

1 bearing an account number, but also accommodates the presentment of an account  
2 number to a merchant in intangible form, such as the recitation of an account  
3 number to merchant 206 for discrete key entry by merchant 206 at the  
4 commencement of the authorization process.

5 In yet another embodiment as detailed in Figure 6, account manager 202  
6 (Figure 2) rather than account user 204 (Figure 2) divulges an account number for  
7 use by merchant 206 (Figure 2) upon the rendering of goods or services. Such a  
8 process has application to businesses such as the insurance industry wherein  
9 account manager 202 may play the role of a claims adjuster disclosing an account  
10 number to merchant 206 for payment of services rendered for an insurance claim.

11 Returning to a discussion of the embodiment depicted in Figure 2,  
12 merchant 206 upon receipt of the account number information verifies the status  
13 and acceptance parameters of the present account by performing an authorization  
14 request 230 with authorizing agent 212. Merchant 206 forwards the account  
15 number, transaction amount, the merchant's SIC denoting its category of goods or  
16 services, the merchant's MID and the acquiring BIN associated with merchant 206.  
17 Authorizing agent 212 performs the authorization process which includes  
18 consulting the pre-authorization table when the merchant SIC presented in  
19 authorization request 230 corresponds to a pre-authorization SIC presented in  
20 establish authorization step 218. The authorization process of authorizing  
21 agent 212 is detailed in the flowchart of Figure 4. At the conclusion of the  
22 authorization process, authorizing agent 212 issues an authorization response 232  
23 listing the acceptance or denial status resulting from the authorization process to  
24 merchant 206.

25 Generally at the authorization phase of a transaction, funds do not transfer  
26 between the parties. Rather, a settle account phase generally occurs at a periodic

1 point in time such as at the end of a business day or week. At such time,  
2 merchant 206 compiles a complete listing of authorized transactions occurring  
3 within the specified period which includes the present transaction of the previous  
4 discussion, and initiates a settlement request 234 with authorizing agent 212 by  
5 divulging the account number, the transaction amount and other pertinent and  
6 related information such as the merchant's SIC, MID and BIN.

7 In some financial configurations, authorizing agent 212 may also act as an  
8 account clearinghouse providing account settlements for card issuers having an  
9 established relationship with authorizing agent 212. Authorizing agent 212 issues  
10 a settlement request 236 to card issuer 214 which may contain the same or similar  
11 information as received from settlement request 234 or as shown in settlement  
12 request 236 may contain more descriptive information such as a merchant name and  
13 city as opposed to an MID. In one embodiment of the present invention,  
14 authorizing agent 212 additionally forwards the transaction identifier as received  
15 in pre-authorization request 226. Card issuer 214 issues payment settlement  
16 response 238 to acquiring bank 208 with the subsequent settlement response 239  
17 for settlement of the account resulting from the present transaction.

18 Card issuer 214 issues a billing account 240 to account manager 202  
19 detailing the account number, the transaction amount, merchant information and,  
20 when present, the transaction identifier. By presenting the transaction identifier  
21 to account manager 202 transactions authorized in the pre-authorize transaction  
22 phase may be traced through the authorization, settlement and reporting phases of  
23 account processing. By tracing or having a designator assigned to a specific  
24 transaction, the accounting resources of account manager 202 may close out such  
25 transactions upon the reporting of the completion of the transaction.

1           Figure 3 is a simplified diagram of authorization tables employed by an  
2           authorizing agent for use in comparison of parameters of a requested transaction  
3           with authorization limitations placed upon transaction, in accordance with an  
4           embodiment of the present invention. An authorization agent 212 (Figure 2) stores  
5           therein an authorization table 300 containing parameter limitations as previously  
6           designated during the establish account phase of an account processing procedure.  
7           During a traditional authorization procedure, the authorizing agent references a  
8           standard authorization table containing limitations such as an SIC limit 312, a  
9           transaction limit 314 and a balance limit 316. In the present invention specified  
10          categories of transactions may be allowed to proceed when a pre-authorization  
11          process has taken place. Such transaction categories are stored within  
12          authorization table 300 in a pre-authorization SIC table 302.

13          As illustrated in Figure 3, SICs 304, 306 and 308 correspond to SIC  
14          category codes X, Y and Z, respectively, and designate transaction categories  
15          requiring consultation with a pre-authorization table 318 to determine the  
16          authorization of a requested transaction. In the preferred embodiment, pre-  
17          authorization table 318 is comprised of a series of fields designating transaction  
18          parameters that must be in compliance prior to issuing an authorization of the  
19          requested transaction. Such transaction parameters include a quote amount 322,  
20          a variance 324, a merchant ID (MID) 326 and an acquiring bank identification  
21          number (BIN) 328. Quote amount 322 is comprised of an upper price boundary for  
22          an approved transaction. A variance parameter 324 optionally provides tolerance  
23          values for accommodating variations in "amounts." For example, a variance may  
24          typically take the form of sales tax or regionalized price fluctuations or other  
25          variations. Merchant identifier 326 optionally may provide a parameter requiring  
26          the transaction to originate from a designated merchant or point of sale location.

1 Furthermore, acquiring bank identification number 328 may optionally provide a  
2 further grouping of select merchants and employ a specified bank before  
3 authorizing the transaction in question.

4 In another embodiment, a transaction identifier 330 is associated with pre-  
5 authorization transaction parameters during the pre-authorization process. Such  
6 association of an identifier permits a pre-authorizing agent such as an account  
7 manager to specify a purchase order number, a work order number or an insurance  
8 claim number to be included within the pre-authorization parameters of such goods  
9 or such services. Following the initiation and authorization of a transaction  
10 wherein the pre-authorization parameters were matched, the transaction identifier  
11 is attached with the settlement request information, depicted as settlement  
12 request 236 (Figure 2), for conveying the transaction information to a card issuer  
13 for reconveyance to the account manager. Upon receipt of the transaction identifier  
14 associated with the completed transaction account manager 202 may rectify  
15 accounting books or other records referencing the transaction identifier because the  
16 transaction identifier was associated with the billing account and request for  
17 payment. Such a technique enables a merchant to receive payment almost  
18 immediately upon the dispatch of a settlement request and relieves the  
19 accompanying correspondence associated with "cutting" a purchase order and  
20 writing a check for accounts payable.

21 In an alternate embodiment of the present invention, pre-authorization  
22 table 318 further comprises an SIC identifier field 320 for associating with a  
23 specific set of pre-authorization parameters. Furthermore, each parameter within  
24 the pre-authorization table need not be specified allowing greater flexibility to an  
25 account user in selecting vendors of goods or services.

1        Figure 4 is a flowchart of an authorization process incorporating pre-  
2 authorization, in accordance with a preferred embodiment of the present invention.  
3 An authorizing agent pre-authorization verification process 402 is carried out  
4 within an authorizing agent such as authorizing agent 212 described in Figure 2.  
5 Although the previous discussions including Figure 2 have illustrated entities such  
6 as authorizing agents being separate from card issuers, nothing prevents the  
7 combination of these elements into a single entity carrying out both processes  
8 therein. For example an account manager 202 (Figure 2) and account user 204  
9 (Figure 2) may easily be combined into a single entity that both manages and uses  
10 an established account. Additionally, acquiring banks and card companies may  
11 further be included within other entities such as a card issuer or authorizing agent.

12        Authorizing agent pre-authorization verification process 402, in the  
13 preferred embodiment, is carried out by an authorizing agent 212 (Figure 2) by  
14 consulting a pre-authorization's SIC table 302 (Figure 3) of authorization table 300.  
15 A query task 404 compares the SIC value of the requested transaction with those  
16 previously stored within the pre-authorization SIC table 302 (Figure 3) during the  
17 establishment of the account phase. When the SIC code of the requested  
18 transaction does not match a SIC code specifically requiring additional pre-  
19 authorization, a standard authorization processing task 406 occurs wherein the  
20 standard authorization table 310 (Figure 3) having specific limitations such as  
21 transaction or balance limits is performed.

22        When query task 404 determines that the SIC code of the requested  
23 transaction corresponds with a SIC code requiring pre-authorization, a query  
24 task 408 performs a cursory evaluation upon the pre-authorization table to  
25 determine if there is a pre-authorization entry present. When a pre-authorization  
26

1 entry is not present, a deny transaction task 410 returns a deny transaction status  
2 in the authorization response 232 (Figure 2).

3 When query task 408 locates pre-authorization data within the pre-  
4 authorization table, a query task 412 evaluates the requested transaction amount  
5 against the quote amount including any variance parameters included within the  
6 pre-authorization table. When the requested transaction amount exceeds the quote  
7 amount including any variances, the requested transaction is denied as described  
8 above. When the requested transaction amount does not exceed the boundaries  
9 established by the quote amount including any variances, a query task 414 further  
10 evaluates any other specified parameters such as merchant ID (MID) or acquiring  
11 bank identification number (BIN) against those supplied by the requested  
12 transaction. Again, if the parameters of the requested transaction do not conform  
13 of those specified in the pre-authorization table, the transaction is denied.

14 When query task 414 determines that the parameters of the requested  
15 transaction conform to all other parameters specified in the pre-authorization table,  
16 an approved transaction task 416 authorizes the transaction in the affirmative.  
17 Although the above flow diagram has been specified in terms of task ordering,  
18 nothing precludes the evaluation of parameters or conditions in varying orders. For  
19 example, a merchant identifier specified in the pre-authorization table may be  
20 compared primary to the evaluation of the transaction amount without affecting the  
21 spirit of the invention.

22 Figure 5 is a depiction of a billing account report associating a transaction  
23 identifier with a transaction yet to be billed, in accordance with an embodiment of  
24 the present invention. As discussed above, a transaction identifier 510 may be  
25 associated to a pre-authorized transaction generated by an account manager.  
26 Traditional billing statements presented to an account manager contain generic

1 information such as an account number, a transaction amount and information  
2 identifying a merchant. Historically, an account manager was then left to search  
3 back through claims, work orders or purchase orders to align a transaction amount  
4 and merchant identifier contained within the billing statement to an earlier  
5 authorization.

6 In the present invention, a billing account 502 is comprised of an account  
7 number 504, merchant information 506, a transaction amount 508 and a transaction  
8 identifier 510. Transaction identifier 510, by containing descriptive information  
9 unique to the transaction, enables an account manager to quickly identify a  
10 corresponding authorization document for account reconciliation. In the preferred  
11 embodiment of the present invention, transaction identifier 510 contains an alpha-  
12 numeric field which is defined by account manager 202 (Figure 202) and  
13 distributed to card issuer 214 using pre-authorization request 224, which in turn is  
14 forwarded to authorizing agent 212 and pre-authorization request 226, respectively.  
15 By allowing a transaction identifier to be associated with pre-authorization process,  
16 less sophisticated equipment such as transaction processing equipment resident at  
17 a merchant point of sale may remain relatively unsophisticated as such equipment  
18 does not process or pass through any additional parameters such as a transaction  
19 identifier but the account manager still gets a unique per transaction identification  
20 code.

21 Figure 6 is a flow diagram illustrating account processing which employs  
22 pre-authorization of select transactions without requiring an account user to  
23 perform a payment presentment step, in accordance with an embodiment with the  
24 present invention. In the present embodiment, the established account phase  
25 proceeds according to that of the previous embodiment wherein an established  
26 account 616 and an established authorization step 618 establish an account number,



1 SIC limitations, transaction limitations and pre-authorization SICs requiring  
2 individual pre-authorization.

3 An account user 604 requests goods or services of an account manager 602  
4 in a task 620. Account manager 602 negotiates a price quotation 622 from a  
5 merchant 606. Account manager 602 either upon resolution of a price quotation  
6 from a merchant 602 or, as discussed above, account manager 602 may obtain a  
7 quote amount value for placing within a pre-authorization request from other  
8 sources such as other standard pricing materials.

9 In the present embodiment, account manager 602 provides merchant 606 as  
10 opposed to account user 604 with an account number in account disclosure step 624  
11 for utilization in a subsequent authorization request initiated by merchant 606.  
12 Following the disclosure of the account number to merchant 606, account  
13 manager 602 performs a pre-authorization request 626 in accordance with the  
14 description of the previous embodiment. A pre-authorization request 628 then  
15 flows from card issuer 614 to authorizing agent 612 for population of the pre-  
16 authorization table 318 (Figure 3). Such steps complete the pre-authorization  
17 phase of the account processing procedure.

18 Upon the rendering of service or delivery of goods, merchant 606  
19 commences an authorization transaction process by issuing an authorization  
20 request 630 to authorizing agent 612 utilizing the account number delivered thereto  
21 by account manager 602 in account disclosure steps 624. Such an account number  
22 distribution technique is useful for applications such as insurance claim processing.  
23 For example, account user 604 assumes the role of an insured placing a claim  
24 against account manager 602, who further assumes the role of the insurer, or  
25 alternatively, a claims adjuster. Account manger 602 negotiates a repair price with  
26 a merchant 606 assuming the role, in the case of auto insurance, of a repair shop.

1           Upon completion of the negotiation process and the resolution of a claim  
2 amount, account manager 602 (*i.e.*, claims adjuster) discloses an account number  
3 for use by merchant 606 (*i.e.*, repair shop) for use in obtaining reimbursement for  
4 goods and services upon the completion of rendering such goods or services.  
5 Account manager 602 (*i.e.*, claims adjuster) initiates pre-authorization request 626  
6 by including the divulged account number, and any other parameters deemed  
7 necessary (*e.g.*, merchant identification number). Furthermore, to aid account  
8 manager 602 (*i.e.*, claims adjuster) in reconciling their accounting system, account  
9 manager 602 includes a transaction identifier, which by way of example may be in  
10 the form of an insurance claim number uniquely identifying the requested claim by  
11 the insured.

12           Upon the rendering of services or the delivery of goods, merchant 606 (*i.e.*,  
13 repair shop) issues an authorization request 630 comprising the account number  
14 disclosed with the amount of the transaction and other identifiers flowing  
15 therewith. Authorizing agent 612 performs an authorization procedure and renders  
16 an authorization response 632 stating the status of either acceptance or denial of  
17 the requested transaction to merchant 606. Merchant 606, at a periodic interval,  
18 issues a settlement request 634 containing the account number, transaction amount  
19 and other identifying fields to authorizing agent 612 for account reconciliation.  
20 Authorizing agent 612 processes the settlement request in conjunction with card  
21 issuer 614 in a settlement request 636 including the account and transaction-related  
22 information such as account number, transaction amount, merchant  
23 number/name/address and the transaction identifier tying the present billing line  
24 item to the originating claim number as delivered to account manager 602 in billing  
25 account step 640 as further received from settlement request step 636, and  
26 settlement response steps 638 and 639.

1       As briefly described above, the present invention provides a mechanism for  
2       utilizing existing account processing infrastructure such as existing point of sale  
3       terminals which are generally incapable of inputting additional information such  
4       as a transaction identifier into a transaction. In the present embodiment,  
5       associating a transaction identifier to a specific transaction is transparent to an  
6       account user, merchant, acquiring bank and bank card association. Furthermore,  
7       because of the services provided by the card issuer to the account manager, the  
8       account manager may establish, edit and delete pre-authorizations at will without  
9       exhaustive and expensive account-modifying parameters as historically required.

10       Figure 7 is a simplified transaction diagram for use in wide-area networking  
11       environment in accordance with a preferred network embodiment of the present  
12       invention. The present embodiment finds application for use in an environment  
13       wherein an account user must divulge an account number in order to make a  
14       purchase using a transaction device such as a credit card or other similar device.  
15       In environments where the physical or personal presentment of such a transaction  
16       card or device is impracticable such as in a telephonic transaction or in a preferred  
17       embodiment such as in the use of a computer network such as the Internet network.  
18       Users or consumers have heretofore been reluctant to divulge their account number  
19       into an amorphous and unknown domain for fear of an unscrupulous merchant  
20       acquiring their account number and utilizing the account number for unauthorized  
21       transactions. An account user or consumer has heretofore been required to rely  
22       upon the integrity of a remote merchant in order to safeguard against such abuses.  
23       In the present embodiment, however, a user/consumer is issued an account number  
24       that when used will be denied unless a specific transaction has been individually  
25       pre-authorized by the user/consumer. Such a process is detailed in Figures 7 and  
26       8. In Figure 7, in a step 700 a consumer discovers through whatever process the

1 consumer chooses, a particular product of interest. The consumer may discover  
2 such a product either by shopping on the Internet or through other forms of  
3 shopping which include other forms of remote shopping such as catalog perusal as  
4 well as other imaginable forms of shopping. In prior remote shopping environment  
5 applications, a user would immediately thereupon divulge their account number.  
6 In the present network embodiment, the consumer in a step 702 transitions to a pre-  
7 authorization environment such as a pre-authorization web page on the Internet.  
8 In the network embodiment of the present invention, the user performs a login  
9 procedure or other security procedure for authenticating or otherwise identifying  
10 the accessing user/consumer as being a bona fide user/consumer. Such an  
11 authentication process may take the form of a login and password or PIN or other  
12 verification or authentication processes known by those of skill in the art. The  
13 user/consumer may alternatively present the account number to such an  
14 authorization page, or the authorization page may match the user/consumer's login  
15 and password data with a stored account number. During such a pre-authorization  
16 process, the pre-authorization values entered by the user/consumer are stored in a  
17 database 704 and may be comprised of an account number, a transaction valid  
18 duration (good through) date, a quote or value amount, a variance, and any other  
19 miscellaneous identification fields. Upon the termination of the pre-authorization  
20 step 702 and the storage in database 704, the pre-authorization information is  
21 forwarded to a database that is accessible by the transaction authorizing agent. It  
22 should be appreciated that the transaction authorizing agent may be one and the  
23 same as the authorization web page provider or any of the other transactional  
24 entities including the bank card association or card issuer.

25 Following the pre-authorization process described above, the consumer  
26 returns in a step 706 to the web merchant's web page, in the instance of an Internet

1 environment, to proceed with the purchasing transaction. In the step 706, the  
2 user/consumer offers to the web merchant an account number. In the present  
3 embodiment, the user/consumer operating with an account number that specifically  
4 requires the pre-authorization process performed immediately above derives a  
5 sense of security knowing that the act of divulging the account number to a  
6 merchant would only enable that specific merchant to successfully utilize the  
7 divulged account number in at most a single transaction and for a specific amount.  
8 Therefore, the consumer is protected from unscrupulous merchants that would  
9 heretofore misuse a divulged account number.

10       Such a pre-authorization embodiment as described herein appears  
11 transparent to all merchants. Following the account number divulging act by the  
12 consumer to the merchant, the web merchant in a step 708 performs a traditional  
13 authorization request which in a step 710 passes through an acquiring bank, a bank  
14 card association to an authorizing agent. The authorizing agent thereupon performs  
15 an authorization with the account number and any other associated information  
16 passed on from the merchant such as the transaction amount. As part of the  
17 authorizing act, in a step 712 the account number with its accompanying  
18 transaction amount is compared against the previously pre-authorized information  
19 which was in the preferred embodiment sent to the authorizing agent for storage as  
20 received at the authorization web page. Once a comparison has been made of the  
21 pre-authorized "amount" and the transaction amount as received in the  
22 authorization process from the merchant, the authorizing agent will thereafter  
23 either approve or deny the transaction according to the pre-authorization  
24 parameters. The authorizing agent in a step 714 also subjects the transaction to the  
25 traditional standard authorization checks such as credit limits and any variations  
26 including an account in good standing. Following the pre-authorization checks in

1 step 712 and the standard authorization checks in step 714, the authorizing agent  
2 may thereupon either decline the transaction in a step 716 or approve the  
3 transaction in a step 718.

4 If a transaction is approved, the pre-authorization process previously  
5 performed is either deleted from the system or deactivated, thereby preventing any  
6 unscrupulous subsequent attempts to utilize the divulged account number. Any  
7 additional transactions desired to be performed by the user/consumer require the  
8 user/consumer to undergo the pre-authorization process described above in steps  
9 702 and 704. Since each of the pre-authorization requests is valid for only a single  
10 transaction, a particular user/consumer derives additional peace of mind in  
11 employing an otherwise vulnerable account number in performing remote  
12 commerce such as electronic commerce.

13 Those skilled in the art appreciate that other applications of the above-  
14 described technology may also be employed in applications such as transactions  
15 engaged in by a user/consumer to other remote entities such as catalog merchants  
16 by using a computer interface pre-authorization approach or alternatively through  
17 a telephonic interface which enables a user to specify an account number and a  
18 quotation or potential transaction amount.

19 Figure 8 is a flow diagram of the immediately above described pre-  
20 authorization process for use in a wide-area networking environment.

21 It is appreciated that a potential user of the system would need to establish  
22 an account. In a step 816 a web account user or a consumer 804 interacts with a  
23 card issuer 814 to obtain an account number and other various limits such as  
24 transaction limits and even specific transaction type limits. Following the  
25 establishment of an account step 816 between a potential web account user and a  
26 card issuer, a step 818 establishes the authorization restrictions with the

1 authorizing agent 812. While not explicitly shown, the authorizing agent must also  
2 be aware of the corresponding account number as well as the transactional limits  
3 and other various limits placed upon a user's account transactions. In one  
4 implementation of the present embodiment, card issuer 814 may issue a unique  
5 series of account numbers which uniquely identify to authorizing agent 812 that  
6 particular transaction employing such a unique account number require the pre-  
7 authorization process before any transactions may be approved.

8       Following the establishment of account stage, a user engages in traditional  
9 shopping or browsing of the preferred environment, one of which may take the  
10 form of electronic shopping on the Internet. In a step 820, the web account user  
11 804 discovers a web merchant page 806 bearing a preferred good or service to be  
12 acquired by web account user 804. In a step 822, web merchant page 806 discloses  
13 a price quotation or a quotation amount which may in its simplest form be a textual  
14 listing on the web merchant page of a sale amount. Once a web account user 804  
15 determines the desirability of a web merchant's good or service, the web account  
16 user 804 engages in a pre-authorization process with an authorization web page 815  
17 which is affiliated in some manner with a card issuer or other service provider  
18 which presents a front-end interactive environment to the web account user 804.  
19 As alluded to above, an alternate embodiment may employ a telephonic or other  
20 interactive front-end enabling a web account user the ability to pre-authorize a  
21 forthcoming transaction.

22       In the login step 823, the user may interface with the authorization web  
23 page 815 in any of several traditional login procedures such as the offering of a  
24 login alpha numeric string followed by the input of a password and may  
25 alternatively require the user to enter an account number. In a step 824 the web  
26 account user 804 includes the specific parameters within which a forthcoming

1 transaction must comply. Such parameters may include the divulging of an account  
2 number, a transaction amount or quotation amount including a variance which may  
3 allow a user to approximate a percentile taxation rate. Alternative parametric  
4 information may also include a duration in which a transaction must be performed  
5 else the pre-authorization becomes stale and therefore invalid. The use of a  
6 transaction valid duration date also known as a "good through" date enables a user  
7 that anticipates an imminent transaction to specify a duration date or time which  
8 minimizes the exposure to any account number misuse. In a step 826 the pre-  
9 authorization request is forwarded from the authorization web page 815 to the  
10 authorizing agent 812 that will subsequently perform any authorization requests  
11 received from a merchant.

12 Following the pre-authorization phase, the web account user 804 returns to  
13 the web merchant page 806 in a step 828 to consummate the transaction by  
14 presenting the web account user's account number. Thereafter the web merchant  
15 performs an authorization request 830 with authorizing agent 812 in a traditional  
16 transaction fashion by submitting an account number and a transaction amount  
17 along with any other miscellaneous identifying parameters. Authorizing agent 812  
18 thereafter performs the authorization process described above in Figure 7 and  
19 returns in a step 832 an authorization response in the form of an acceptance or a  
20 denial of the account number for use in payment for the requested transaction.

21 Account settlement and account reporting take a similar form as to the other  
22 embodiments described in previous figures in that in a step 834 the web merchant  
23 requests a settlement with the authorizing agent which thereafter transfers a  
24 settlement request in a step 836 to the card issuer which sends payment in steps 838  
25 and 839 to the web merchant's acquiring bank. The report accounting stage also  
26



1 forwards in a step 840 a billing account from the card issuer to the web account  
2 user which contains traditional account statement information described above.

3 Figure 9 depicts a block diagram of an authorization table including both  
4 standard and pre-authorization table as stored within an authorizing agent in  
5 accordance with a preferred network embodiment described herein. The  
6 authorizing agent described herein in the network embodiment stores an  
7 authorization table 900 containing a list of accounts which require pre-  
8 authorization as established during an account establishment stage. The  
9 authorizing agent upon receiving the established account authorization for a  
10 particular account number populates a corresponding standard authorization table  
11 910 with traditional information such as account limits 912, transaction limit 914,  
12 and a balance limit 916. A particular account such as account number 904  
13 requiring pre-authorization prior to authorizing a transaction also has associated  
14 therewith a pre-authorization table 918 which has the corresponding account  
15 number 920 and other pre-authorization fields described herein above. One such  
16 field is a quotation amount 922 which is the pre-authorized amount that a  
17 user/consumer input during the pre-authorization stage. Other values input by the  
18 user/consumer during the pre-authorization phase may include a variance amount  
19 and a transaction valid duration or "good through" date as well as any other  
20 miscellaneous I.D. information. Such information is thereafter referenced by the  
21 authorizing agent during an authorization transaction stage.

22 A particular network embodiment has been described herein having  
23 applications to a consumer to business transaction. In such an environment, a user  
24 specifically pre-authorizes a forthcoming transaction thereby providing a narrow  
25 window in which a transaction must be consummated. By enabling a user to  
26 specifically pre-authorize a forthcoming transaction with the inclusion of specific

1 transaction parameters, provides an additional control against misuse of account  
2 numbers which must be divulged to engage in remote commerce where physical  
3 presentment of a physical instrument such as a credit or debit card is infeasible.  
4 It is contemplated that other remote environments may employ the process as  
5 described herein without departing from the spirit of the invention. Such  
6 additional environments and embodiments are contemplated within the scope.

7 The present invention may be embodied in other specific forms without  
8 departing from its spirit or essential characteristics. The described embodiments  
9 are to be considered in all respects only as illustrative and not restrictive. The  
10 scope of the invention is, therefore, indicated by the appended claims rather than  
11 by the foregoing description. All changes which come within the meaning and  
12 range of equivalency of the claims are to be embraced within their scope.

13 What is claimed and desired to be secured by United States Letters Patent  
14 is:

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1           1.     In a network environment, an account authorization method wherein  
2 a portion of account transactions require individual pre-authorization, said method  
3 comprising the steps of:

4               a)     establishing an account between network user and an account  
5 issuer, said account having an imposed pre-authorization transaction  
6 designator for denoting said portion of account transactions that require  
7 said individual pre-authorization;

8               b)     said network user pre-authorizing said account upon a match  
9 of each of at least one specified transaction parameter of said imposed pre-  
10 authorization transaction designator to authorize a requested transaction;  
11 and

12              c)     authorizing said requested transaction when in conformity with  
13 each of said at least one specified transaction parameter.  
14

15           2.     In a network environment, the account authorization method as  
16 recited in claim 1, wherein said establishing an account step comprises the step of  
17 designating a transaction valid duration period as said imposed pre-authorization  
18 transaction parameters.  
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1           3.    In a network environment, the account authorization method as  
2 recited in claim 1, wherein said pre-authorizing step comprises the step of  
3 designating said at least one specified transaction parameter as a quotation amount  
4 describing a price boundary under which to authorize said requested transaction.  
5

6           4.    In a network environment, the account authorization method as  
7 recited in claim 3, wherein said designating said at least one specified transaction  
8 parameter as a quotation amount step further comprises the step of designating a  
9 variance parameter from said quotation amount as one of said at least one specified  
10 transaction parameters.  
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1           5.     In an account authorization system for facilitating the authorization  
2 of account transactions occurring in a network environment wherein a portion of  
3 said account transactions require individual pre-authorization, a method for  
4 authorizing said portion of said account transactions requiring individual pre-  
5 authorization comprising the steps of:

6               a)     receiving an authorization table of an account established  
7 between a network user and an account issuer, said authorization table  
8 capable of having a pre-authorization transaction designator to denote said  
9 portion of account transactions that require said individual pre-  
10 authorization;

11              b)     receiving in a pre-authorization table within said authorization  
12 table as a result of a pre-authorization process by said network user at least  
13 one specified transaction parameter for association with said  
14 pre-authorization transaction designator; and

15              c)     authorizing said requested transaction when parameters from  
16 a requested transaction authorization are in conformity with each of said at  
17 least one specified transaction parameter.  
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1           6.     In an account authorization system for facilitating the authorization  
2 of account transactions occurring in a network environment wherein a portion of  
3 said account transactions require individual pre-authorization, the method for  
4 authorizing said portion of account transactions requiring individual  
5 pre-authorization as recited in claim 5, wherein said receiving in a pre-  
6 authorization table step further comprises the step of receiving a quotation amount  
7 as said at least one specified transaction parameter describing a price boundary  
8 under which to authorize said requested transaction.

9  
10           7.     In an account authorization system for facilitating the authorization  
11 of account transactions occurring in a network environment wherein a portion of  
12 said account transactions require individual pre-authorization, the method for  
13 authorizing said portion of account transactions requiring individual  
14 pre-authorization as recited in claim 6, wherein said receiving a quotation amount  
15 as said at least one specified transaction parameter step further comprises the step  
16 of receiving a variance parameter designating an allowable deviation from said  
17 quotation amount as one of said at least one specified transaction parameters.

1           8.     An account authorization system for facilitating the authorization of  
2 account transactions occurring in a network environment wherein said account  
3 transactions require individual pre-authorization, said system comprising:

4               a)     an account between a network user and an account issuer, said  
5 account having associated therewith an authorization table to designate said  
6 account transactions that require said individual pre-authorization;

7               b)     a pre-authorization table comprising at least one specified  
8 transaction parameter as required to authorize a requested transaction; and

9               c)     means for authorizing said requested transaction when in  
10 conformity with said at least one specified transaction parameter.  
11

12           9.     The account authorization system as recited in claim 8, wherein said  
13 at least one specified transaction parameter is a quotation amount describing a  
14 price to authorize said requested transaction.  
15

16           10.    The account authorization system as recited in claim 9, wherein said  
17 at least one specified transaction parameter further comprises a variance parameter  
18 from said quotation amount.  
19

20           11.    The account authorization system as recited in claim 8, wherein said  
21 means for authorizing said requested transaction comprises an authorizing agent  
22 for receiving said at least one specified transaction parameter, comparing said at  
23 least one specified transaction parameter against at least one corresponding  
24 requested transactions parameter and approving said requested transaction upon  
25 conformity therewith.  
26

1           12. In an account authorization system for facilitating the authorization  
2 of account transactions occurring in a network environment wherein a portion of  
3 said account transactions require individual pre-authorization, a computer-readable  
4 medium having computer-executable instructions for authorizing said portion of  
5 account transactions requiring individual pre-authorization for performing the steps  
6 of:

7           a) receiving an authorization table of an account established  
8 between a network user and an account issuer, said authorization table  
9 capable of having a pre-authorization transaction designator to denote said  
10 portion of account transactions that require said individual pre-  
11 authorization;

12           b) receiving in a pre-authorization table within said authorization  
13 table as a result of a pre-authorization process by said network user at least  
14 one specified transaction parameter for association with said  
15 pre-authorization transaction designator; and

16           c) authorizing said requested transaction when parameters from  
17 a requested transaction authorization are in conformity with each of said at  
18 least one specified transaction parameter.  
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1           13. The computer-readable medium of claim 12 having further computer-  
2 readable instructions wherein said receiving in a pre-authorization table step  
3 further comprises the step of receiving a quotation amount as said at least one  
4 specified transaction parameter describing a price boundary under which to  
5 authorize said requested transaction.

6  
7           14. The computer-readable medium of claim 13 having further computer-  
8 readable instructions wherein said receiving a quotation amount as said at least one  
9 specified transaction parameter step further comprises the step of receiving a  
10 variance parameter designating an allowable deviation from said quotation amount  
11 as one of said at least one specified transaction parameters.

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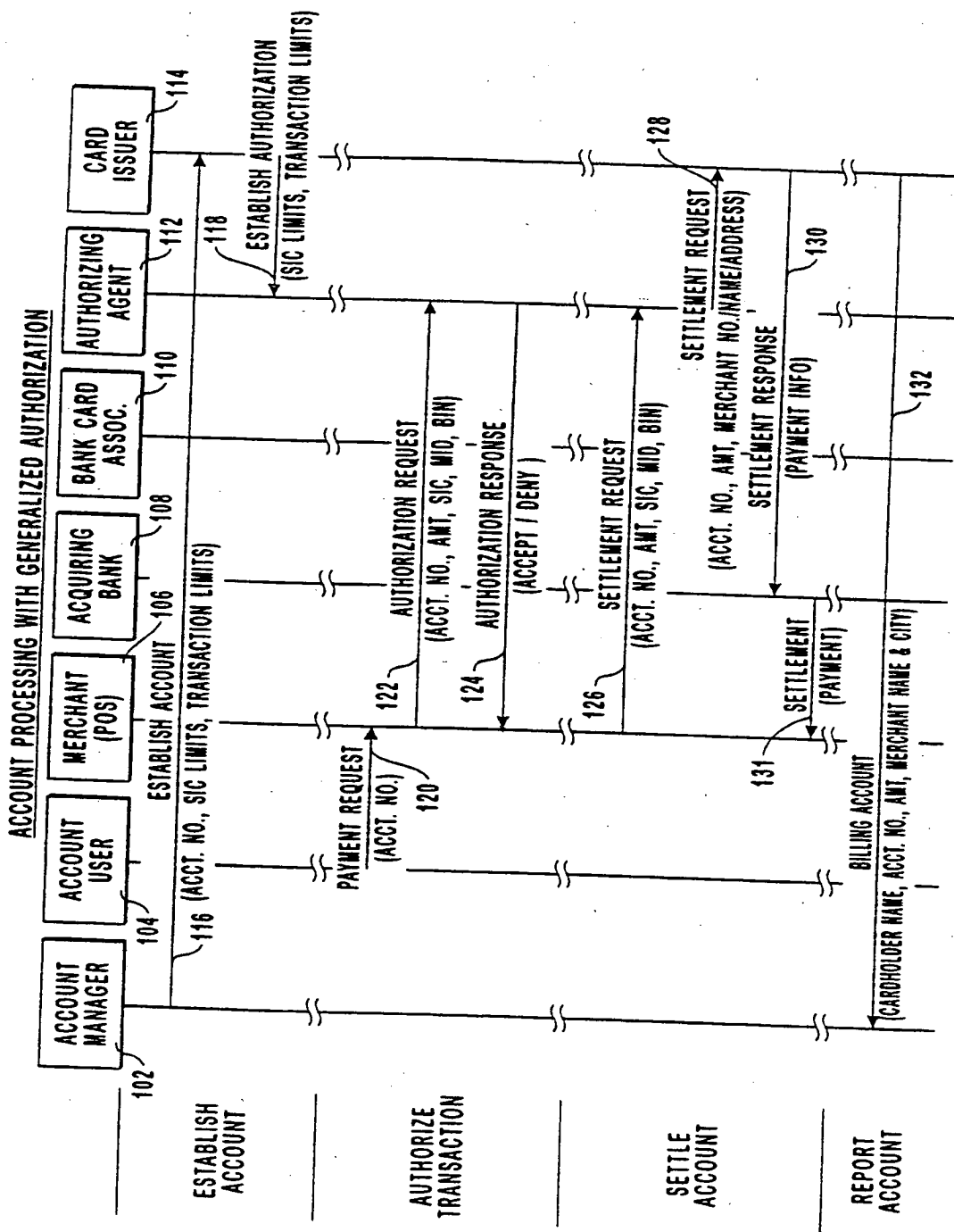


FIG. 1  
(PRIOR ART)

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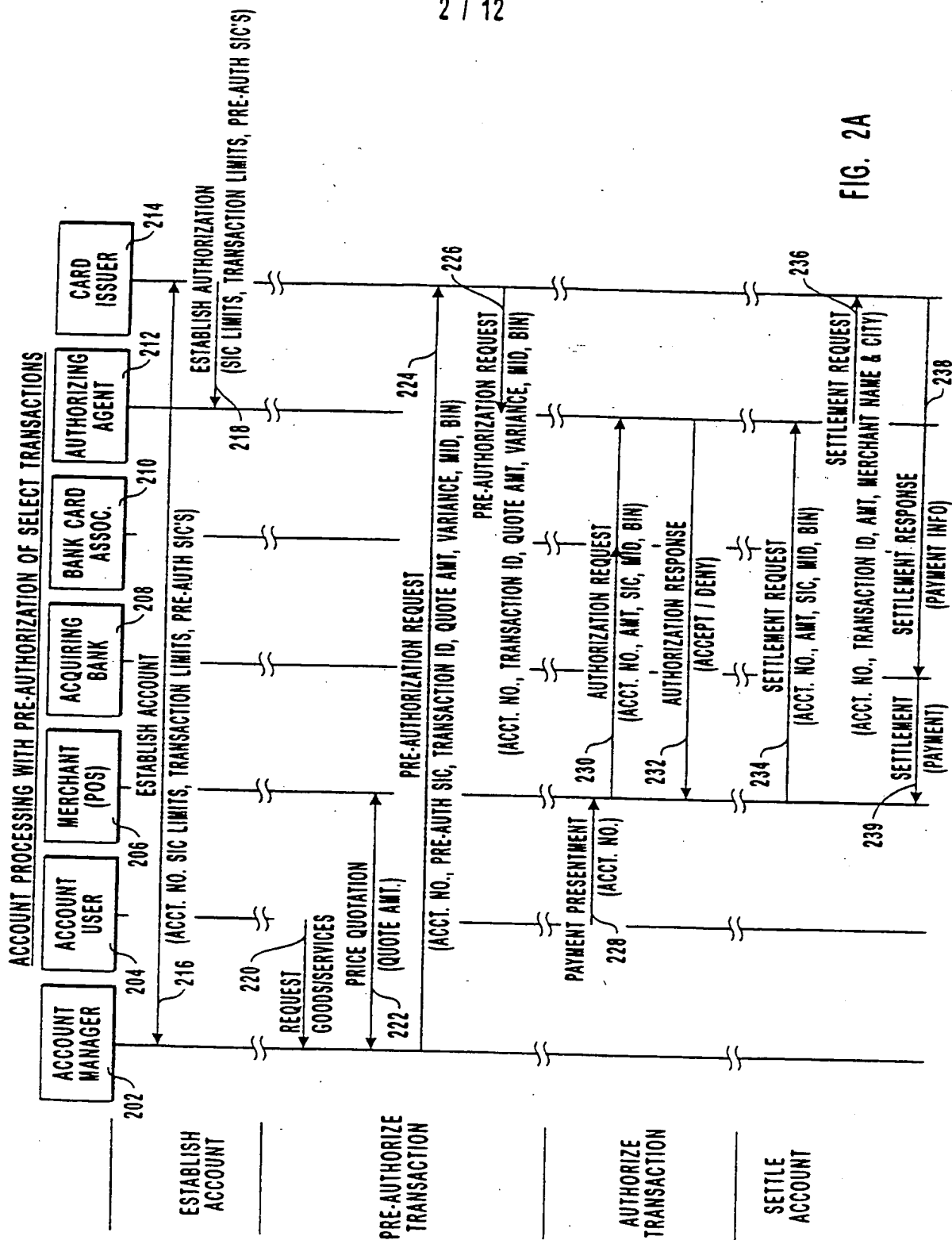


FIG. 2A

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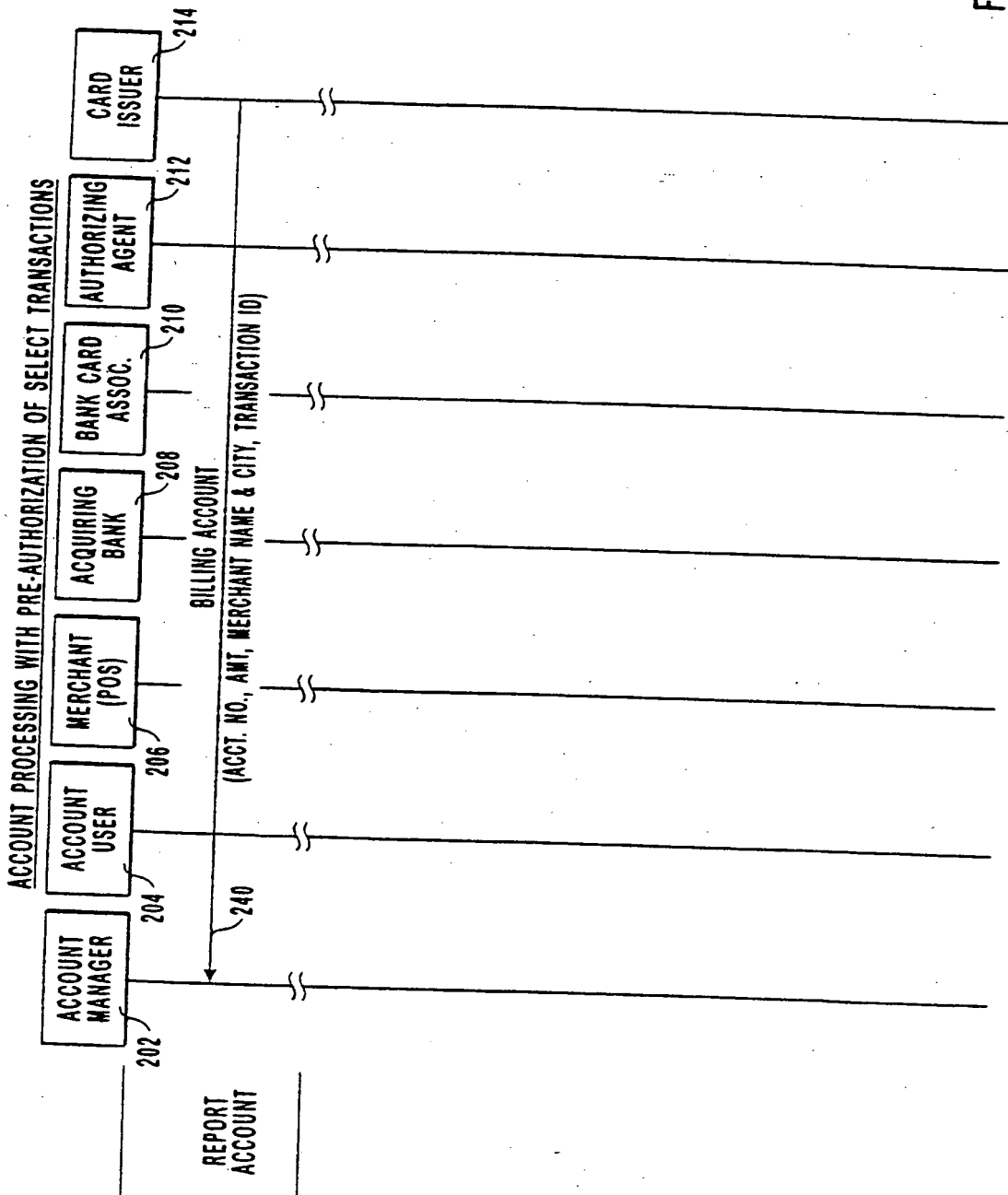


FIG. 2B

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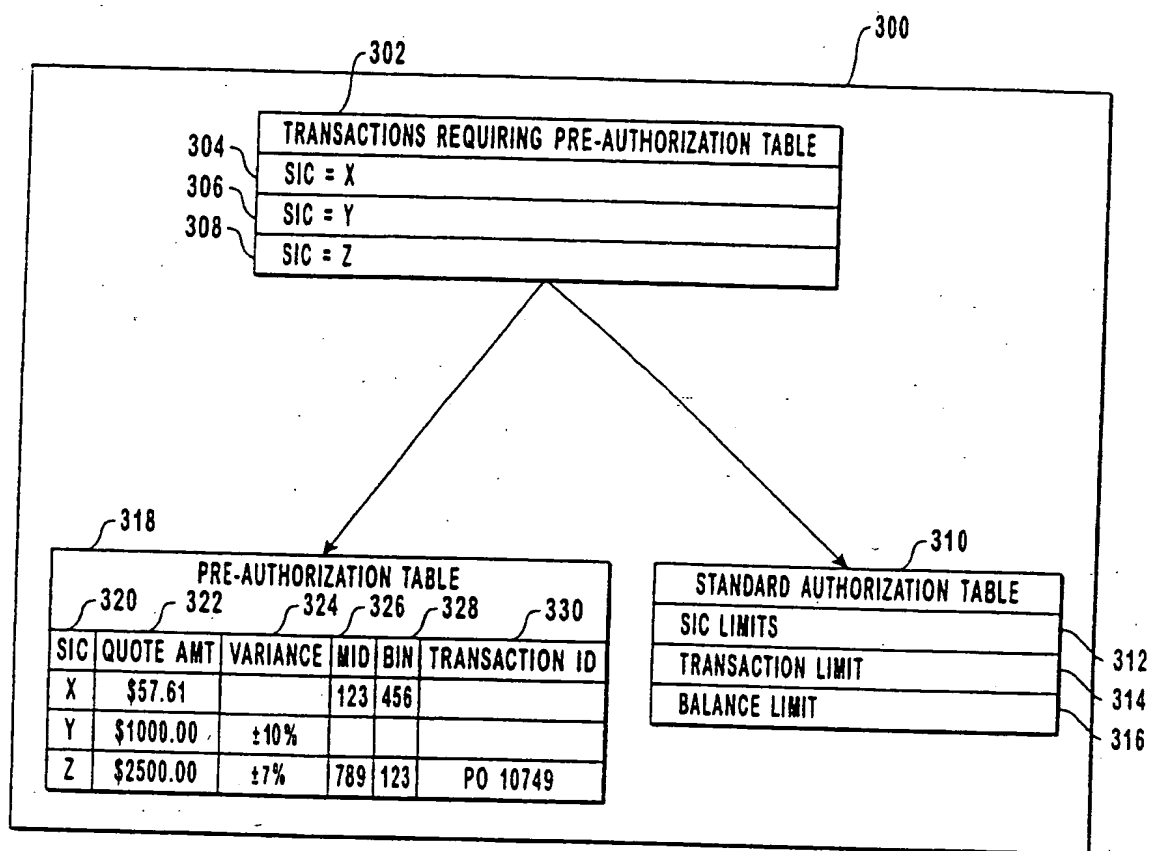


FIG. 3

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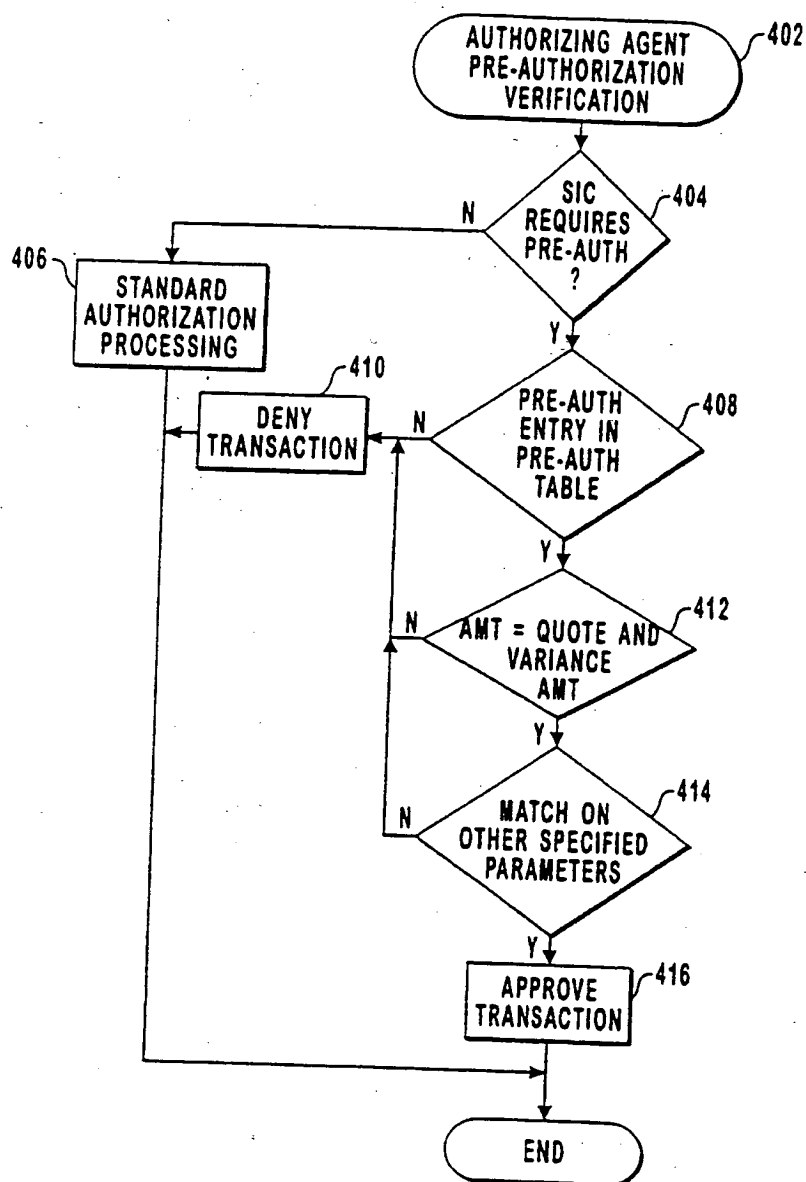


FIG. 4

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502

BILLING ACCOUNT

504	506	508	510
ACCOUNT NUMBER	MERCHANT INFO	AMOUNT	TRANSACTION IDENTIFIER
123-456-7	BOB'S BODY SHOP	\$1234.56	CLAIM NO. 98765
765-432-1	WIDGET CO.	\$87.65	P.O. NO. 12345

FIG. 5

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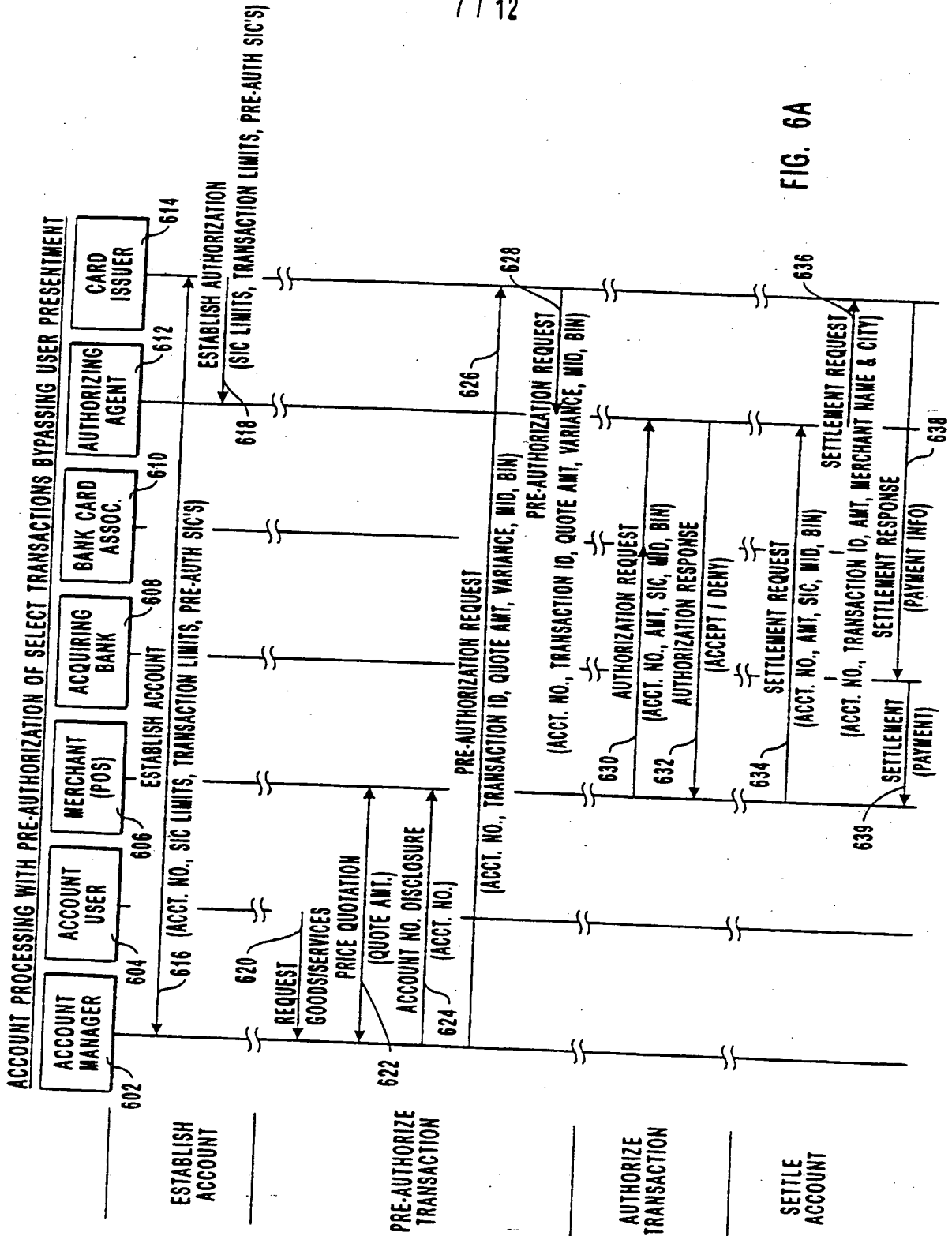
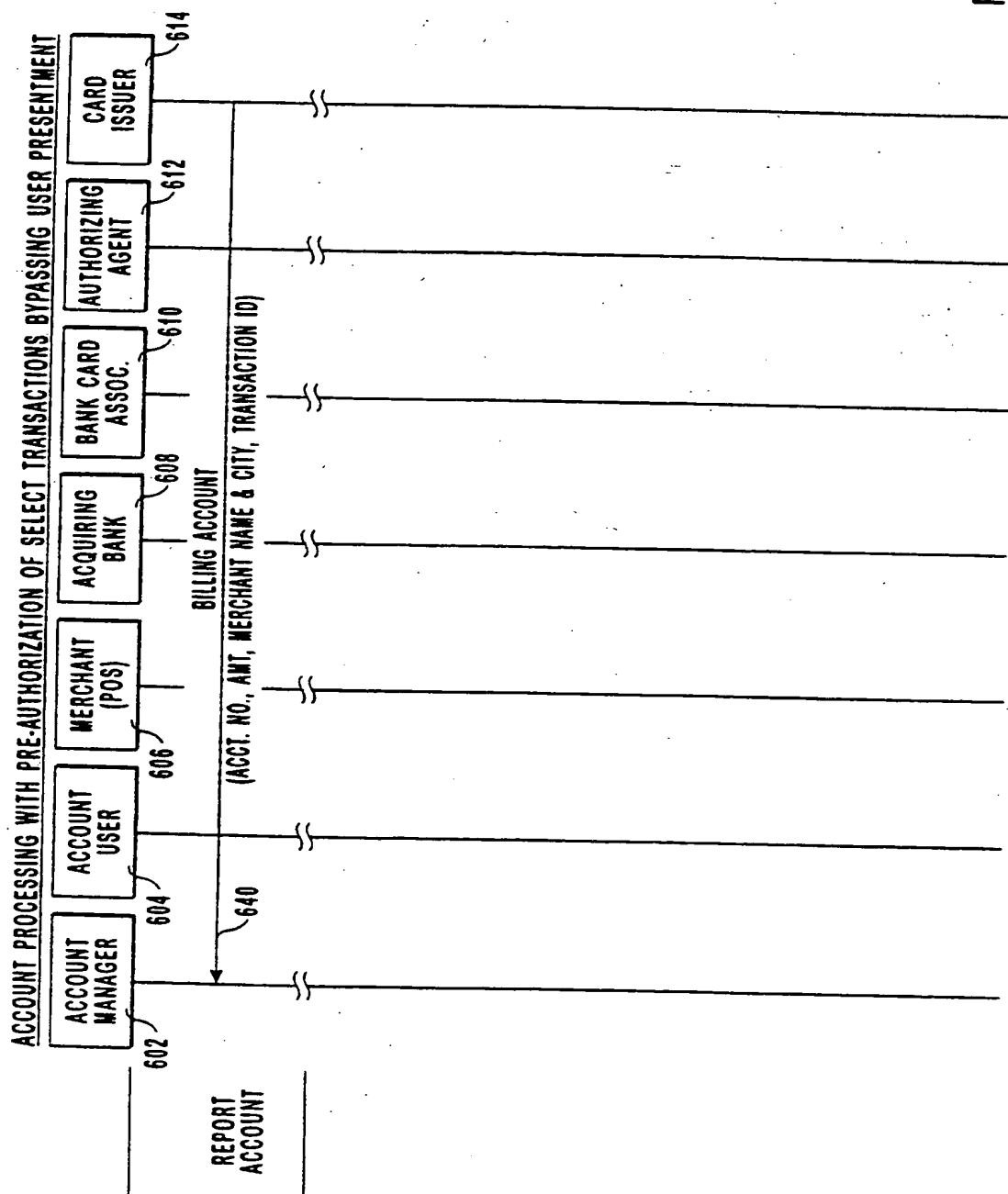


FIG. 6A





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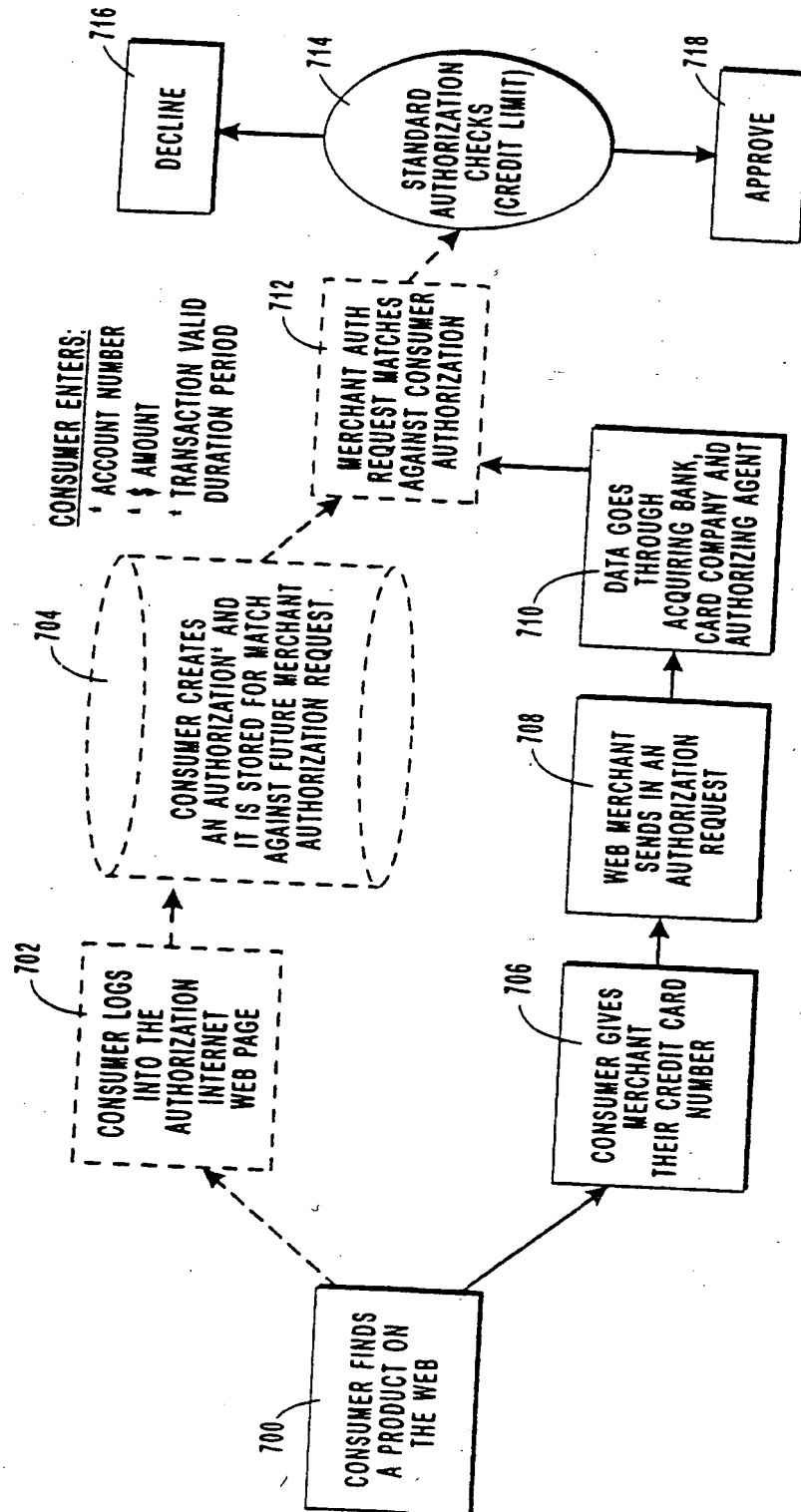
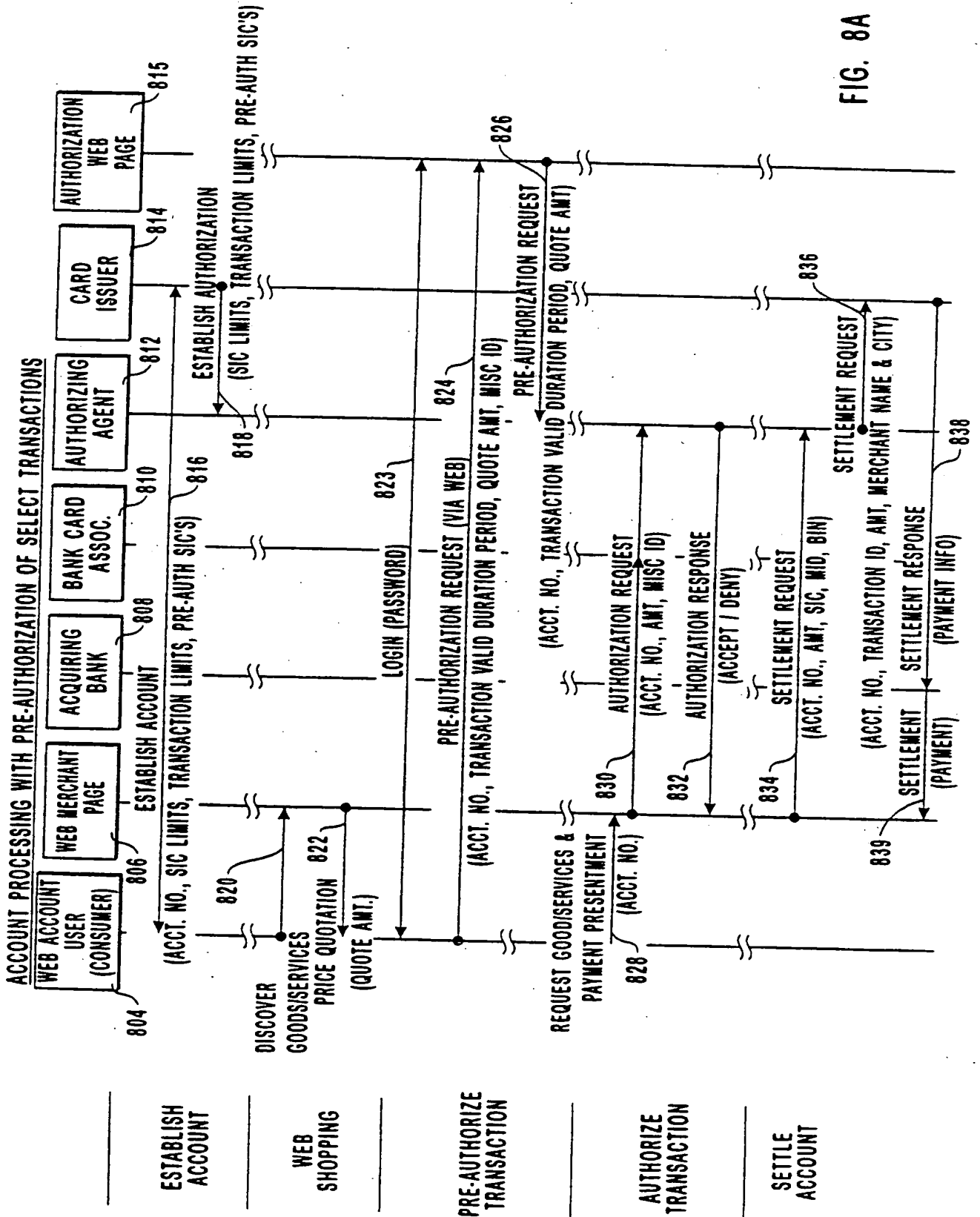


FIG. 7



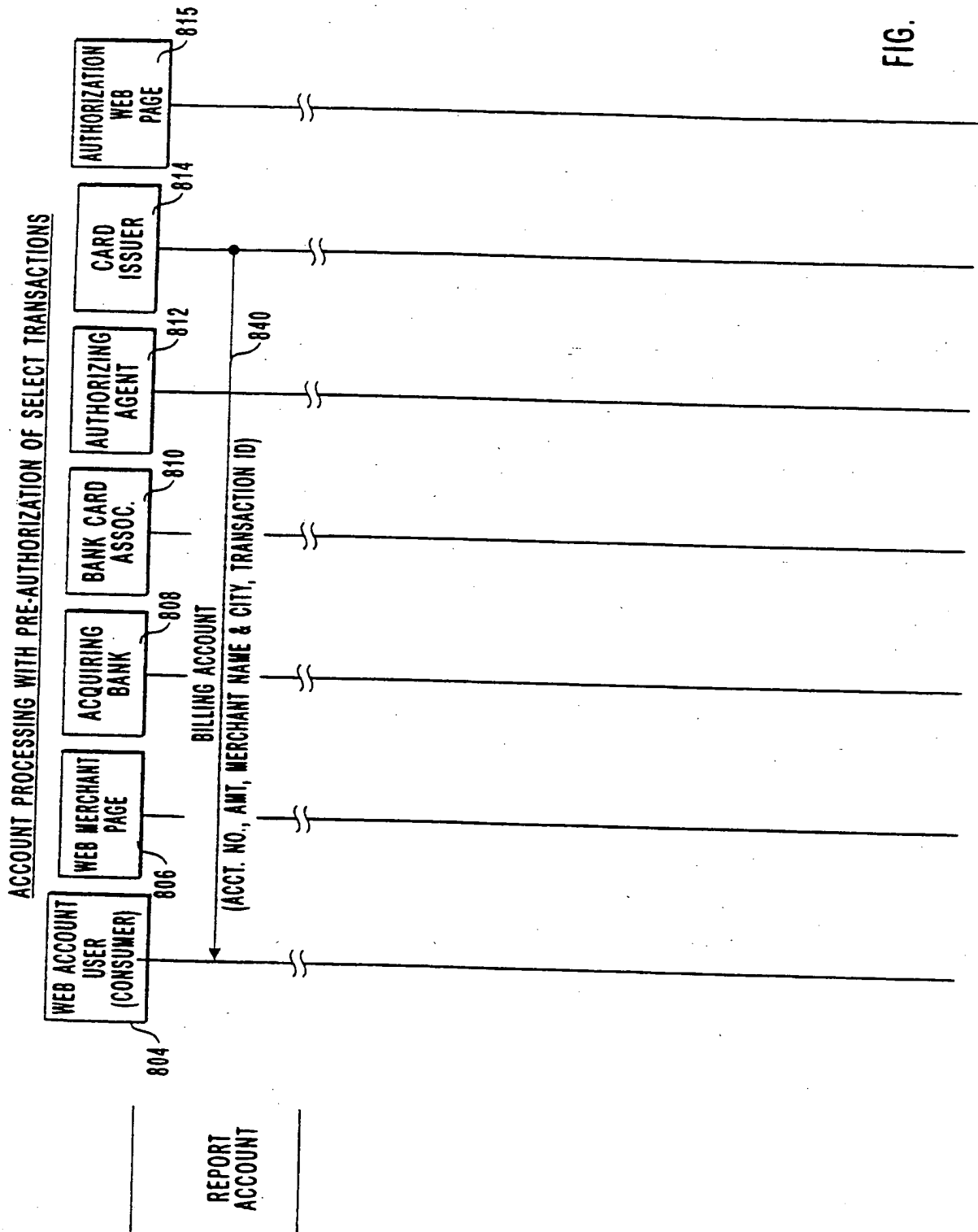


FIG. 8B

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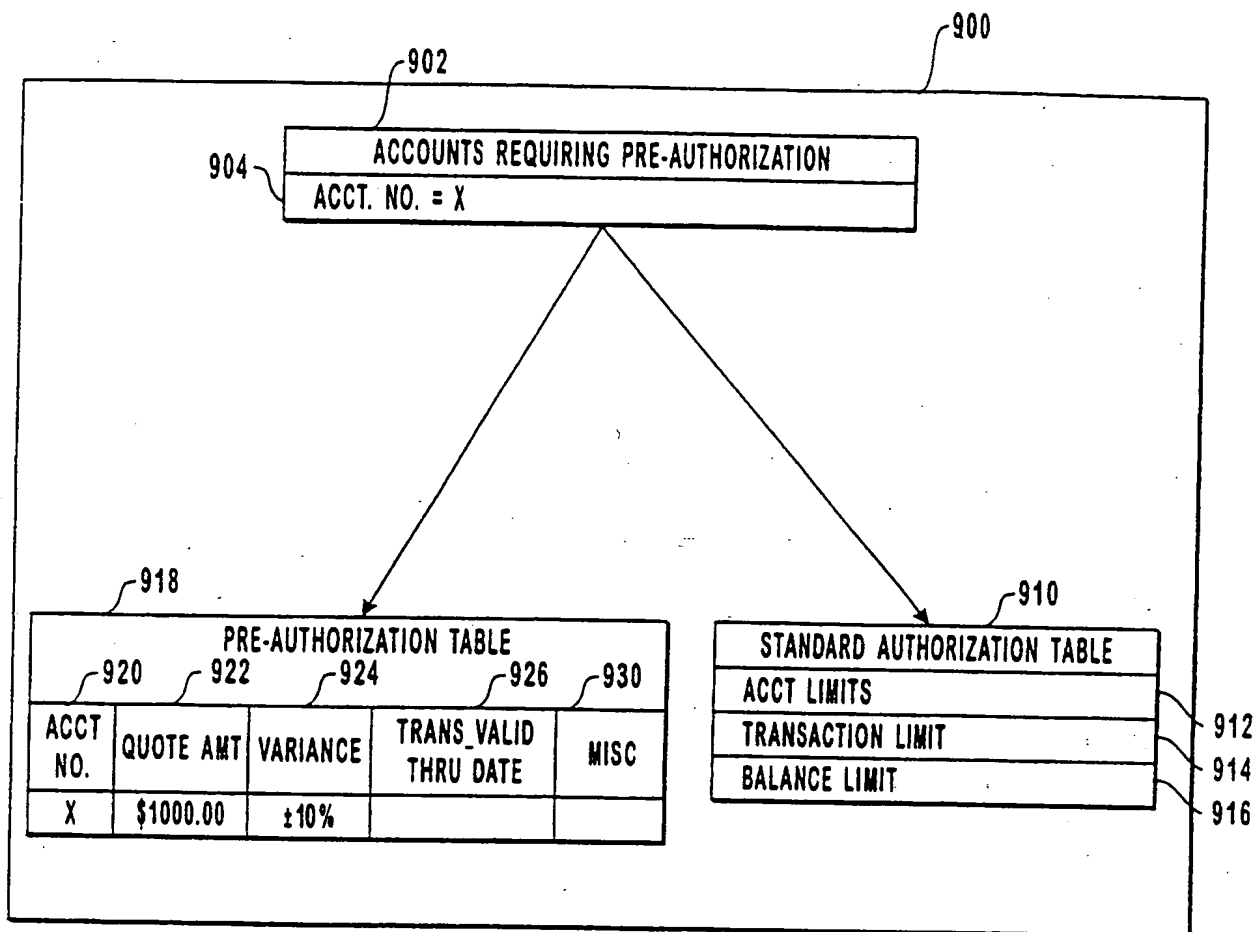


FIG. 9

# INTERNATIONAL SEARCH REPORT

Inte Jonal Application No

PCT/US 00/07975

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G07F19/00 G07F7/08

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 5 500 513 A (LANGHANS STEPHEN ET AL) 19 March 1996 (1996-03-19) column 1, line 61 -column 3, line 12  column 3, line 51 -column 7, line 17; claims; figures	1,5,8,12  2-4,6,7, 9-11,13, 14
X	US 5 621 201 A (LANGHANS STEPHEN ET AL) 15 April 1997 (1997-04-15) the whole document	1,5,8,12
A,P	WO 99 14711 A (ANDRASEV AKOS) 25 March 1999 (1999-03-25) abstract; claims; figures	1-14
-/-		

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

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\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*G\* document member of the same patent family

Date of the actual completion of the international search

22 August 2000

Date of mailing of the international search report

30/08/2000

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Fax: (+31-70) 340-3016

Authorized officer

Guivol, O

## INTERNATIONAL SEARCH REPORT

Ints. Jonei Application No.

PCT/US 00/07975

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 812 628 A (BOSTON VINCENT ET AL) 14 March 1989 (1989-03-14) abstract; claims 1-8; figures 1-3 ---	1,3-13
A	US 5 649 116 A (KENNEDY BEVERLY ET AL) 15 July 1997 (1997-07-15) abstract; claims 16-44 ---	1,5,8,12
A	EP 0 745 961 A (AT & T CORP) 4 December 1996 (1996-12-04) abstract; claims ---	1,5,8,12
A	US 4 874 932 A (KIMIZU RYUICHI) 17 October 1989 (1989-10-17) the whole document ---	1-14
A	US 5 797 133 A (GOETZ CHARLES FREDERICK ET AL) 18 August 1998 (1998-08-18) figure 2 ---	1,5,8,12
A	WO 97 22073 A (CITIBANK NA) 19 June 1997 (1997-06-19) abstract; claims ---	1,5,8,12

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/07975

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5500513 A	19-03-1996	AU 2545995 A CA 2190154 A WO 9531789 A US 5621201 A	05-12-1995 23-11-1995 23-11-1995 15-04-1997
US 5621201 A	15-04-1997	US 5500513 A AU 2545995 A CA 2190154 A WO 9531789 A	19-03-1996 05-12-1995 23-11-1995 23-11-1995
WO 9914711 A	25-03-1999	HU 9802109 A AU 9362498 A EP 1021802 A	28-04-1999 05-04-1999 26-07-2000
US 4812628 A	14-03-1989	US 4734564 A AT 69903 T AU 589851 B AU 5654686 A CA 1252566 A DE 3682608 A EP 0200343 A	29-03-1988 15-12-1991 19-10-1989 06-11-1986 11-04-1989 09-01-1992 05-11-1986
US 5649116 A	15-07-1997	NONE	
EP 0745961 A	04-12-1996	US 5708422 A CA 2176163 A,C JP 8339407 A	13-01-1998 01-12-1996 24-12-1996
US 4874932 A	17-10-1989	JP 1084372 A JP 2054078 C JP 7082507 B JP 1084373 A JP 2041673 C JP 7078812 B JP 1098060 A JP 2062426 C JP 7097382 B	29-03-1989 23-05-1996 06-09-1995 29-03-1989 09-04-1996 23-08-1995 17-04-1989 24-06-1996 18-10-1995
US 5797133 A	18-08-1998	NONE	
WO 9722073 A	19-06-1997	US 6088686 A AU 713746 B AU 1144697 A BR 9611941 A CA 2239713 A CN 1251187 A EP 0954811 A	11-07-2000 09-12-1999 03-07-1997 28-12-1999 19-06-1997 19-04-2000 10-11-1999



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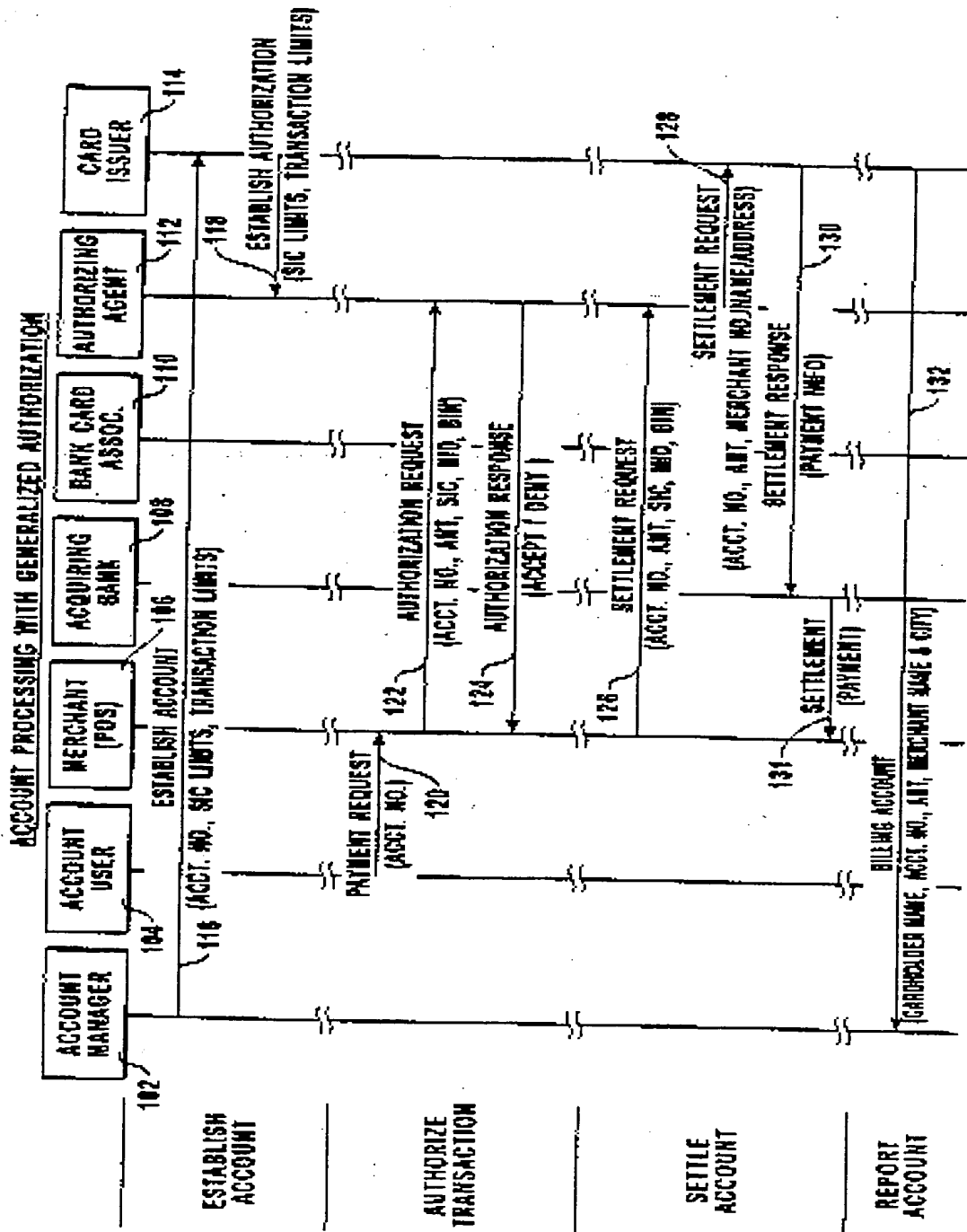


FIG. 1  
(PRIOR ART)

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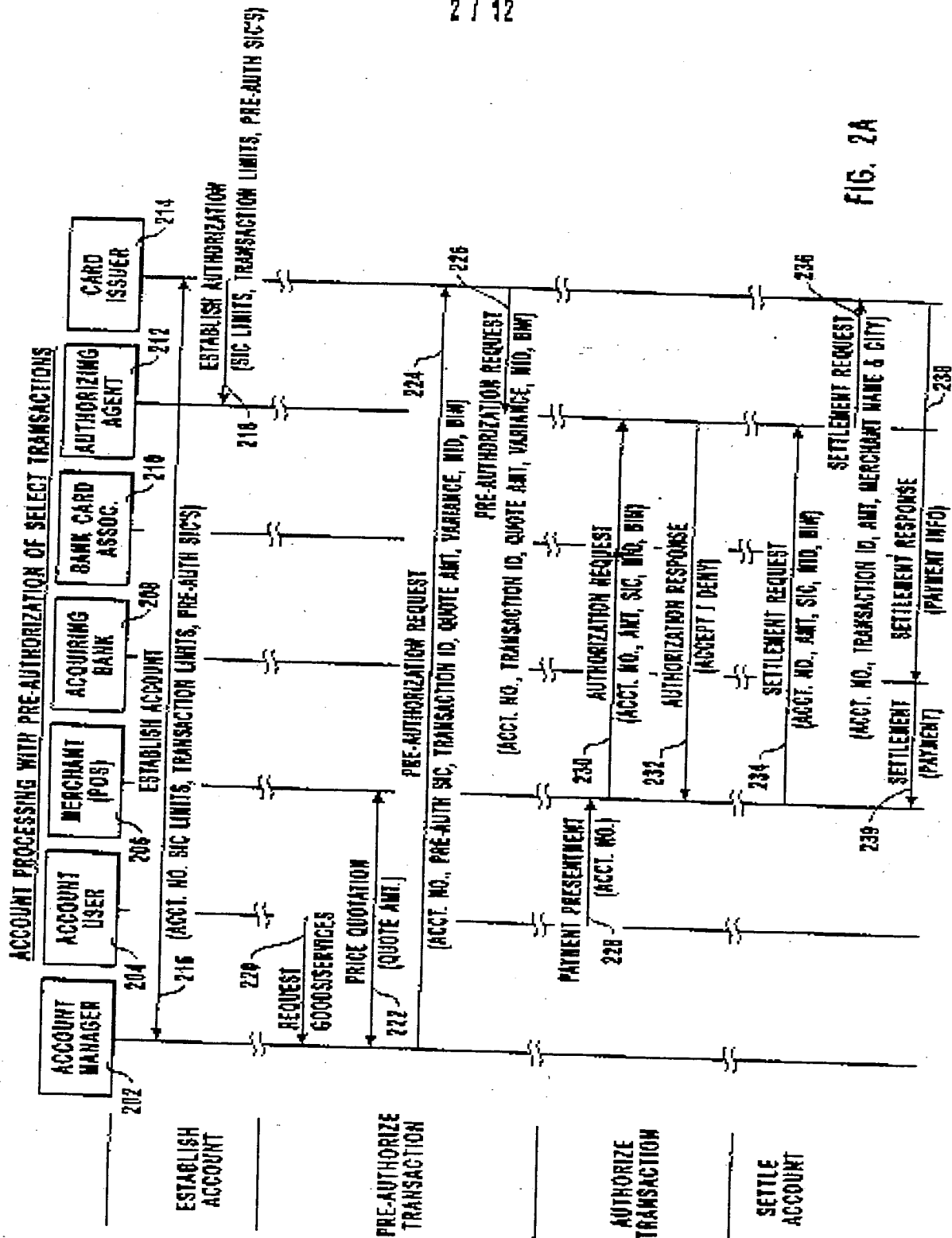


FIG. 2A

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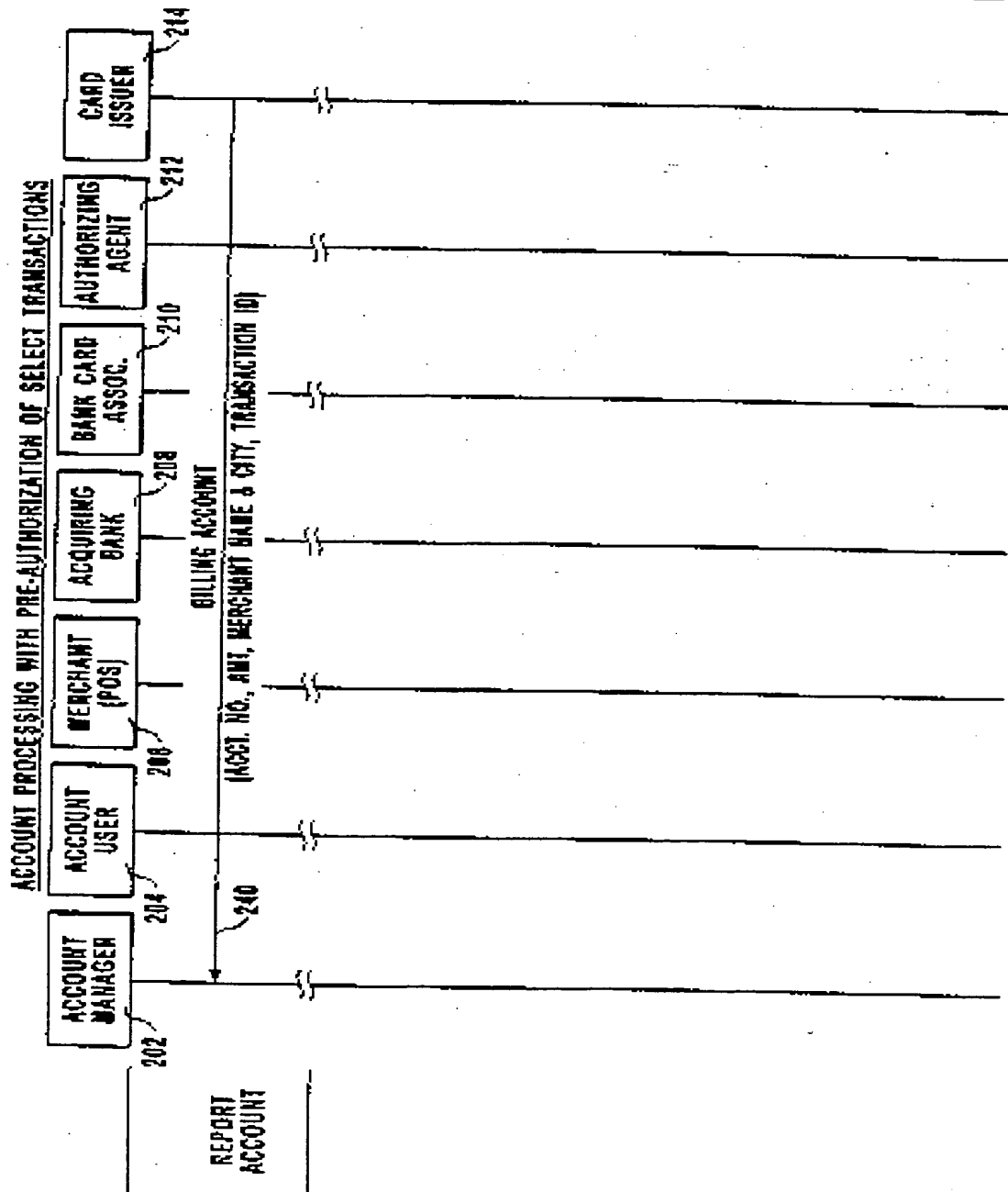


FIG. 2B

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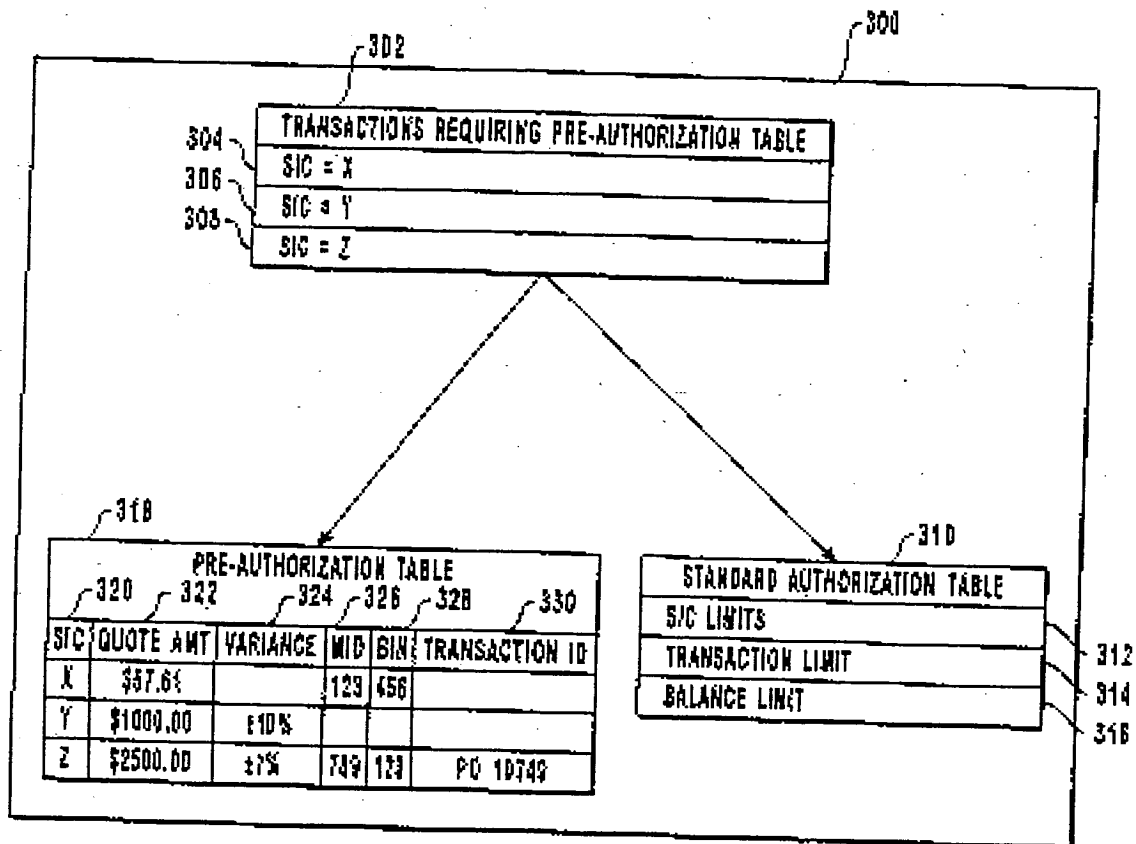


FIG. 3

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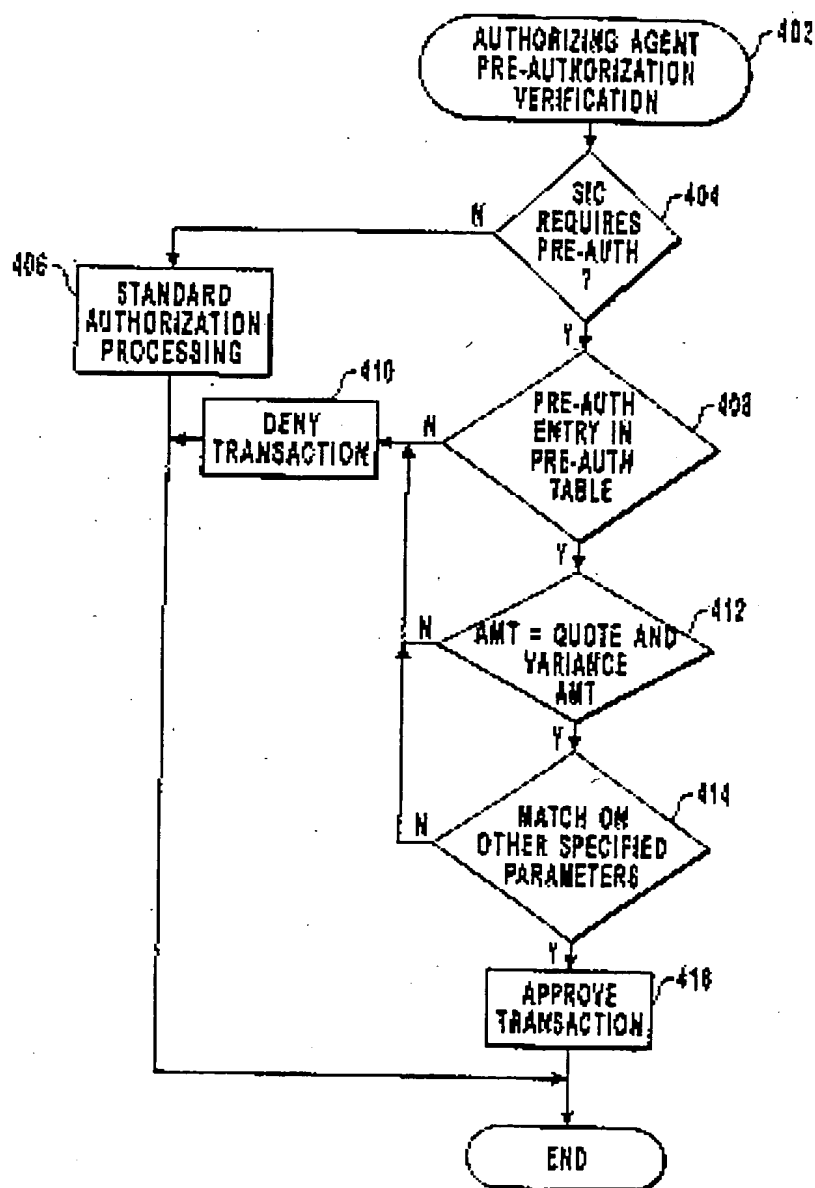


FIG. 4

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502  
**BILLING ACCOUNT**

504	506	508	510
ACCOUNT NUMBER	MERCHANT INFO	AMOUNT	TRANSACTION IDENTIFIER
123-456-7	BOB'S BODY SHOP	\$1234.56	CLAIM NO. 98765
786-432-1	WIDGET CO.	\$97.85	P.O. NO. 12345

FIG. 5

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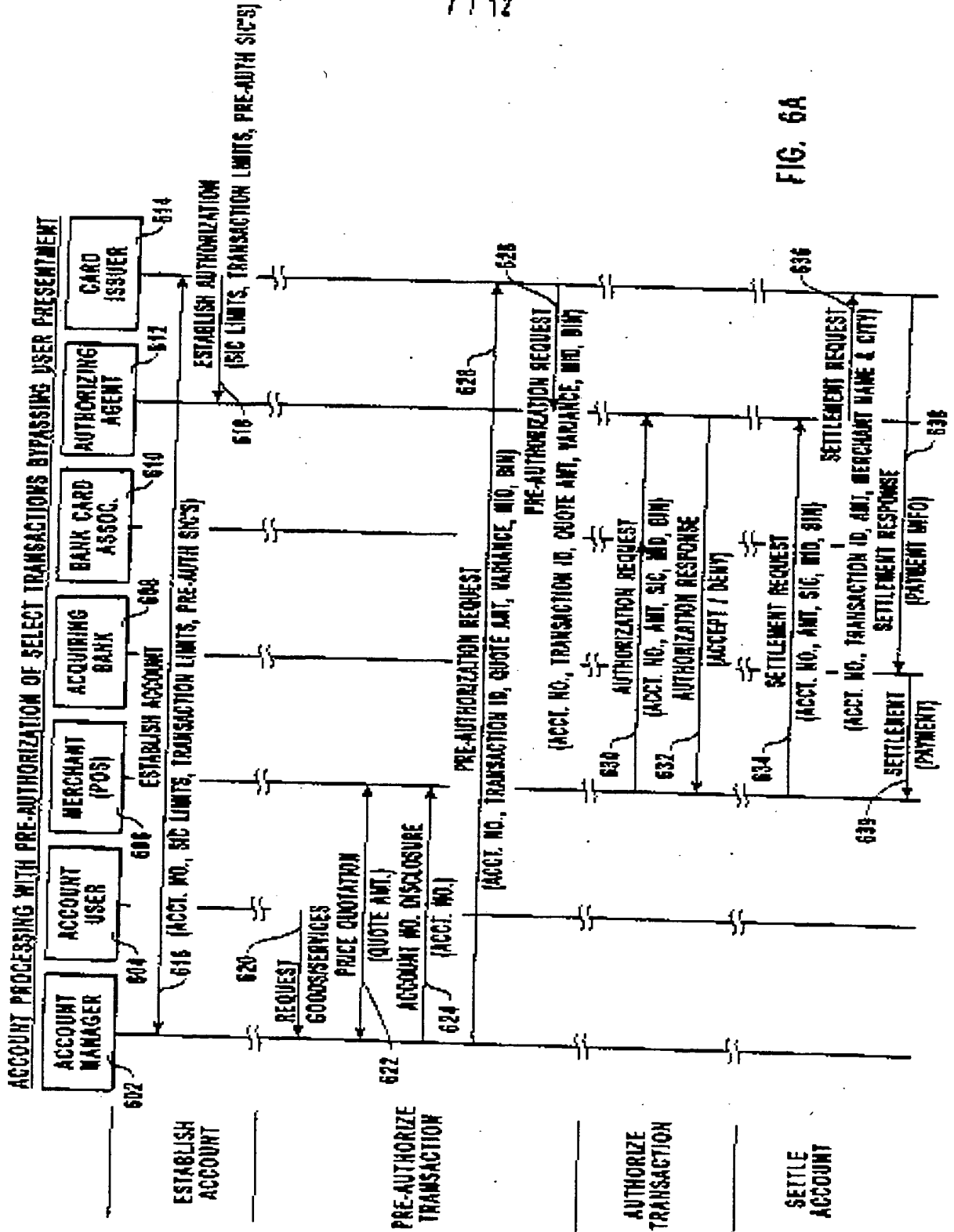
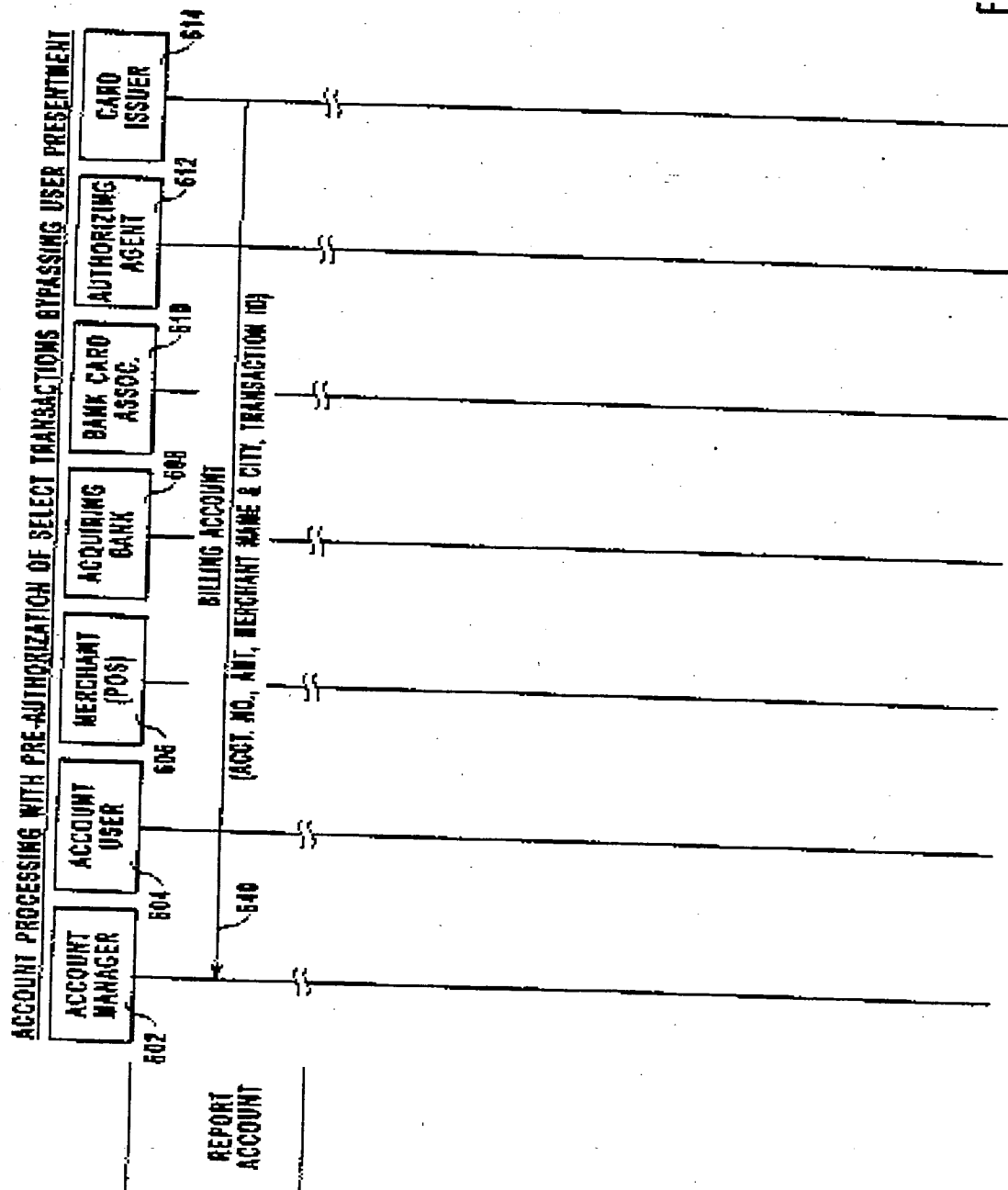


FIG. 6A

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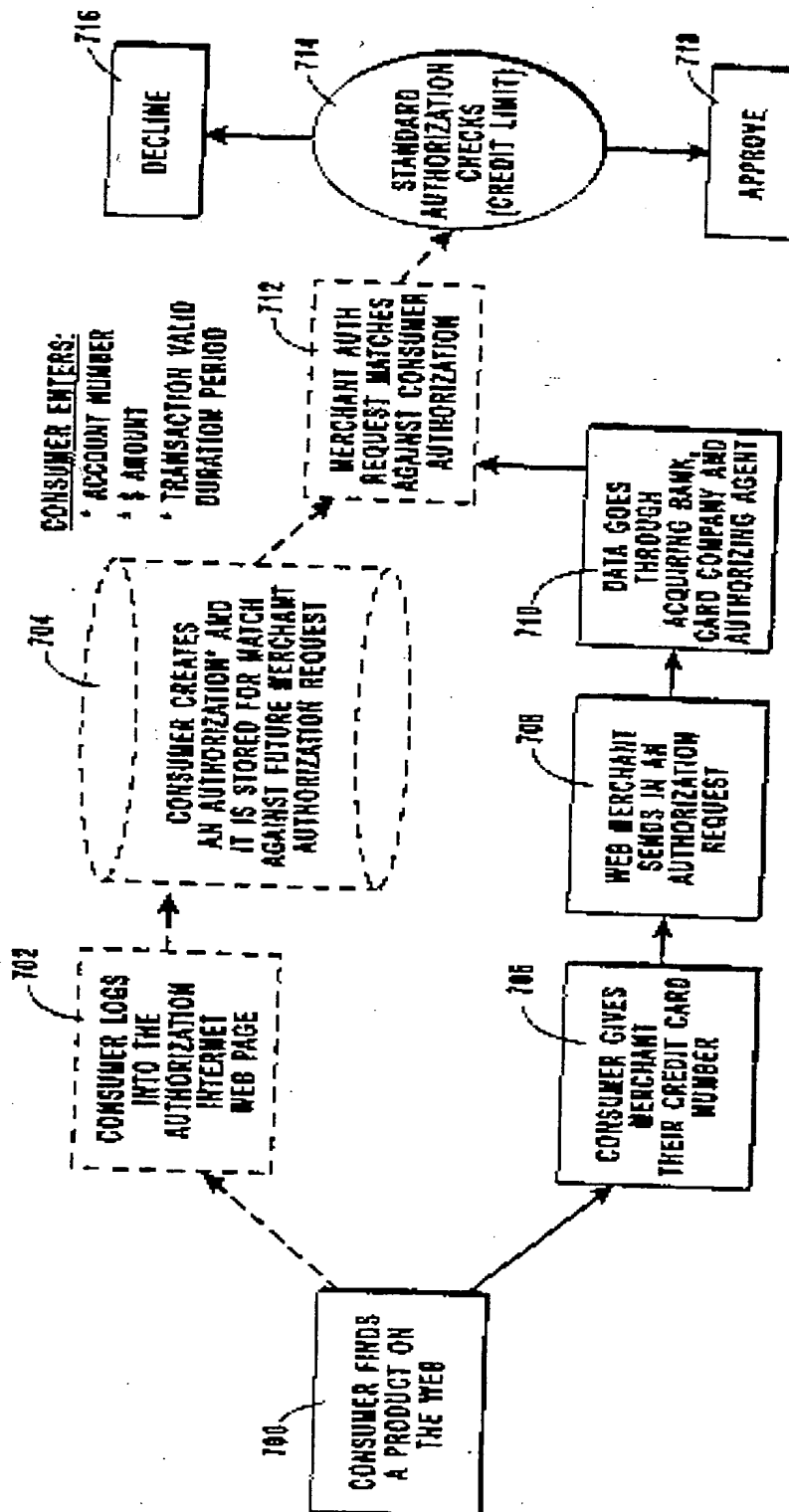


FIG. 7

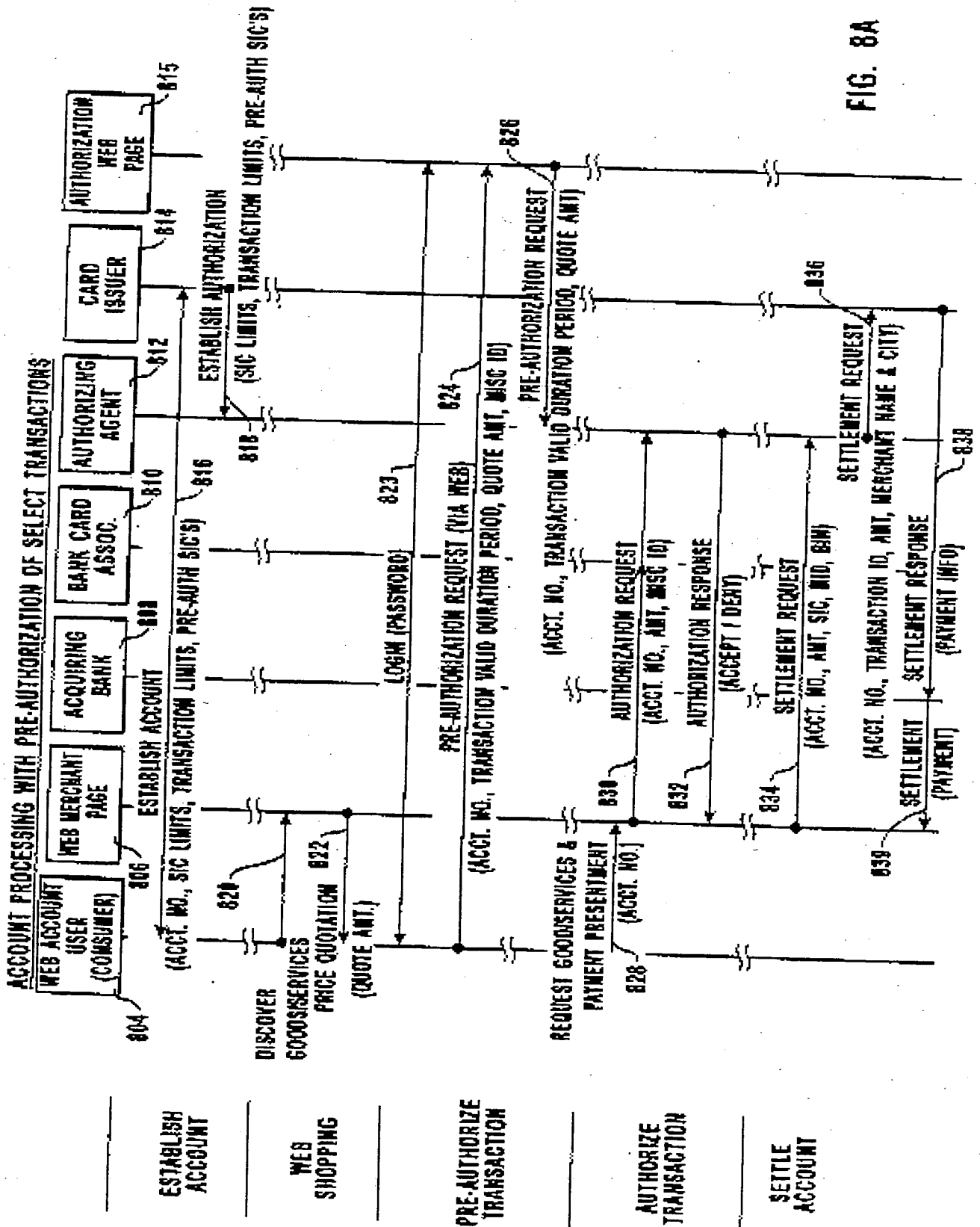


FIG. 8A

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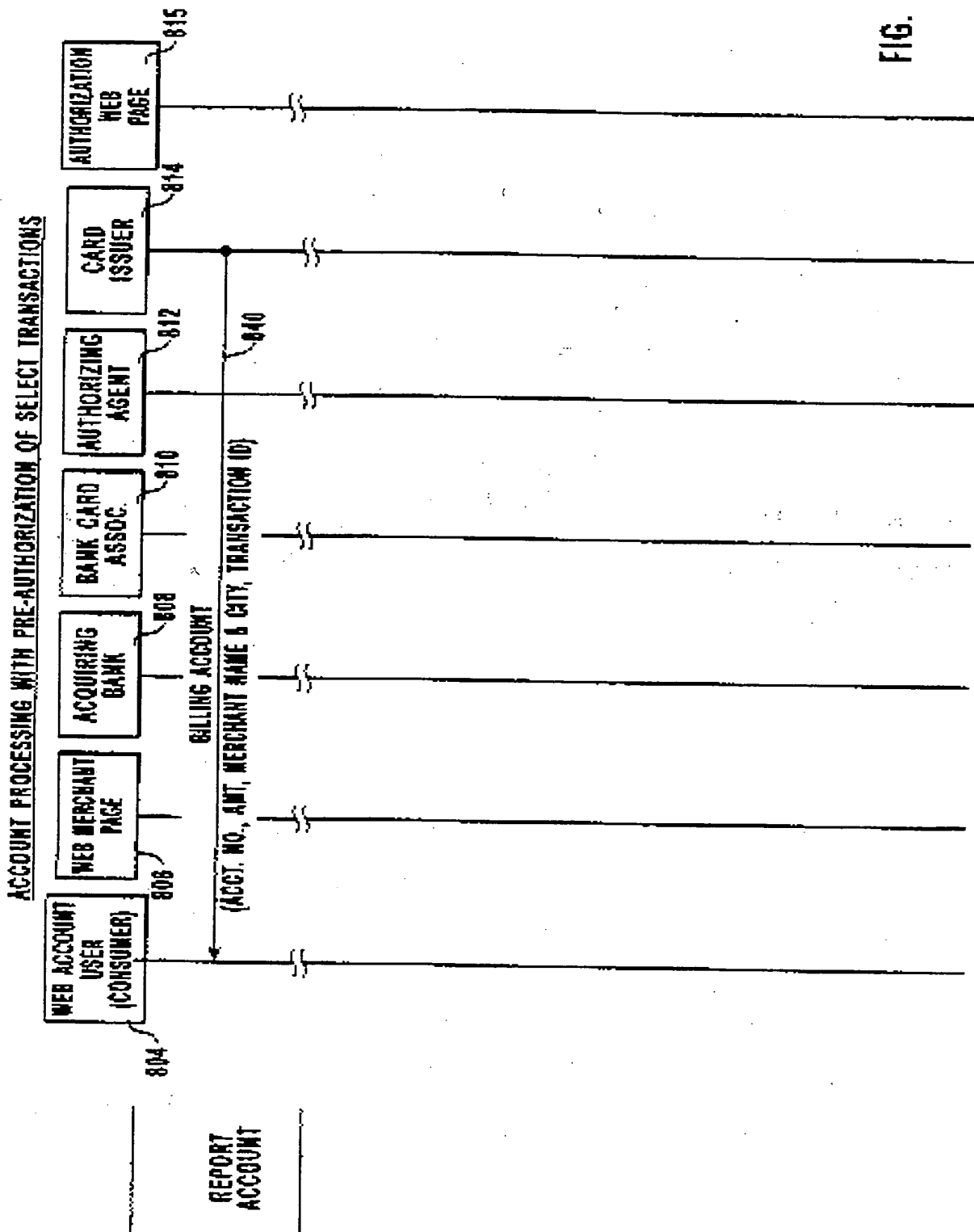


FIG. 8B

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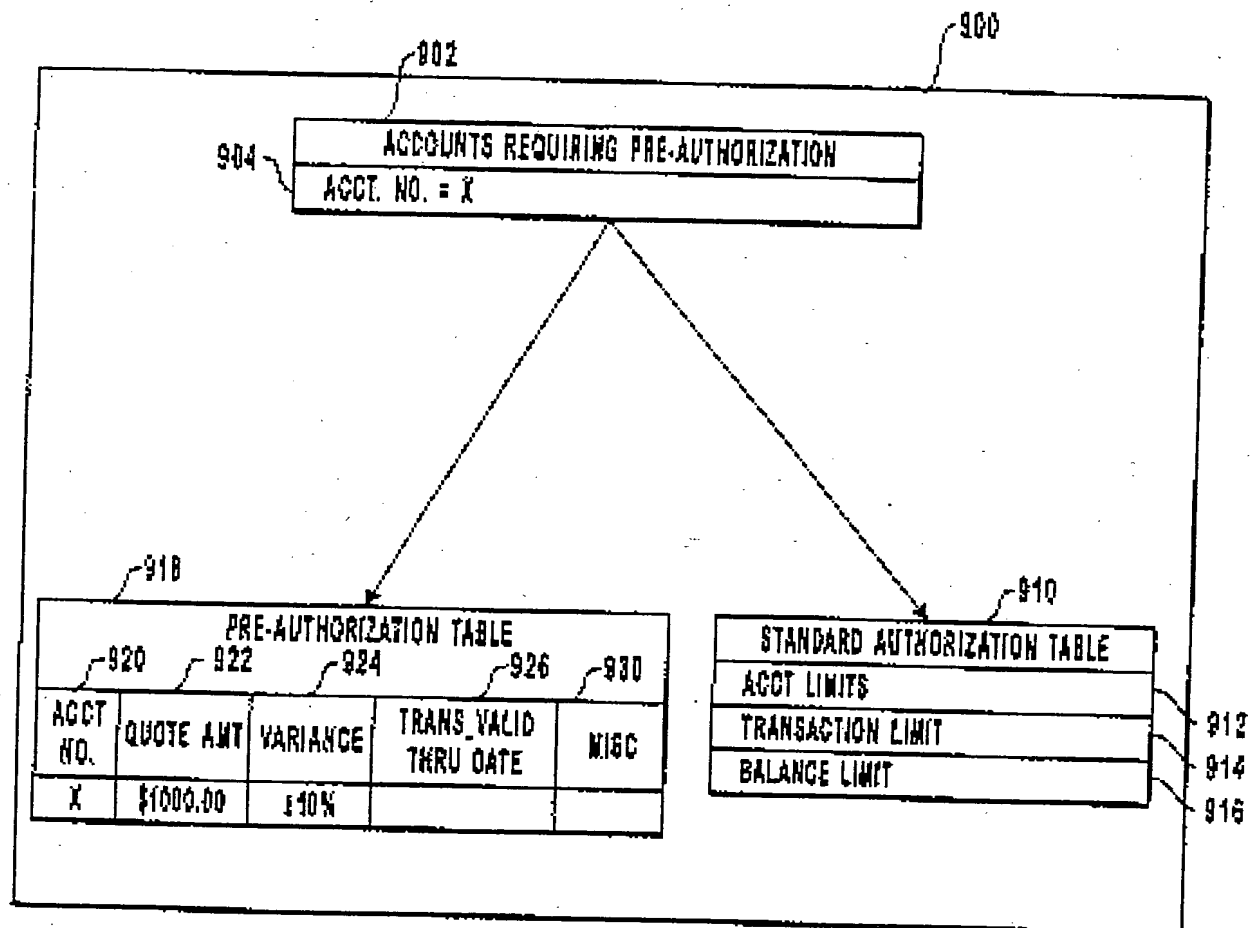


FIG. 9